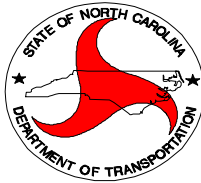


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION



Division 14

District 1

Contract & Bonds

CONTRACT: DN11470610
TIP Number: N/A
FEDERAL: N/A
WBS Element: VARIOUS
LOCATION: VARIOUS
COUNTY: HENDERSON, POLK, AND TRANSYLVANIA
DESCRIPTION: ON CALL LANDSLIDE REPAIR/SLOPE STABILIZATION

Contractor: GEOSTABILIZATION INTERNATIONAL, LLC
Address: PO BOX 631002
CINCINNATI, OH 45263-1002

Division Engineer: E. A. Green, PE
District Engineer: S. Cannon, PE
Resident Engineer: A. Powell, PE

Letting Date: MARCH 10, 2015

Contract Execution: 4/3/2015

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 14

PROPOSAL

DATE AND TIME OF BID OPENING: March 10, 2015 AT 2:00 PM

CONTRACT ID: DN11470610

WBS ELEMENT NO.: VARIOUS

FEDERAL AID NO.: N/A

COUNTY: Henderson, Polk and Transylvania Counties

TIP NO.: N/A

MILES: VARIOUS MILES

ROUTE NO.: VARIOUS

LOCATION: VARIOUS

TYPE OF WORK: ON CALL LANDSLIDE REPAIR/SLOPE STABILIZATION

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

THIS IS A ROADWAY PROJECT.

BID BOND ARE NOT REQUIRED.

GeoStabilization International, LLC

NAME OF BIDDER

543 31 Rd, Grand Junction, CO 81504

ADDRESS OF BIDDER

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. DN11470610 IN HENDERSON, POLK AND TRANSYLVANIA COUNTIES,
NORTH CAROLINA**

Date 2/18/2015 20____

**DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **DN11470610**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Department of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2012 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **DN11470610** in **Henderson, Polk and Transylvania Counties**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2012* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer or Division Engineer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of an item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.

Accompanying this bid is a bid bond secured by a corporate surety, or certified check payable to the order of the Department of Transportation, for five percent of the total bid price, which deposit is to be forfeited as liquidated damages in case this bid is accepted and the Bidder shall fail to provide the required payment and performance bonds with the Department of Transportation, under the condition of this proposal, within 14 calendar days after the written notice of award is received by him, as provided in the Standard Specifications; otherwise said deposit will be returned to the Bidder.



Division 14 Contract Officer

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INSTRUCTIONS TO BIDDERS

**PLEASE READ ALL INSTRUCTIONS CAREFULLY
BEFORE PREPARING AND SUBMITTING YOUR BID.**

All bids shall be prepared and submitted in accordance with the following requirements. Failure to comply with any requirement may cause the bid to be considered irregular and may be grounds for rejection of the bid.

TRADITIONAL PAPER BIDS:

1. Download the entire proposal from the Connect NCDOT website and return the entire proposal with your bid. **ALL BIDDERS SHALL CONTACT THE DIVISION 14 CONTRACTING OFFICE VIA EMAIL D14CONTRACTS@NCDOT.GOV PRIOR TO NOON THE DAY OF LETTING TO RECEIVE A VALIDATION EMAIL. Proposals submitted without the validation email may be rejected.**
2. All entries on the itemized proposal sheet (bid form) shall be written in ink or typed.
3. The Bidder shall submit a unit price for every item on the itemized proposal sheet. The unit prices for the various contract items shall be written in figures. Unit prices shall be rounded off by the Bidder to contain no more than FOUR decimal places.
4. An amount bid shall be entered on the itemized proposal sheet for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount" column of the form.
5. The total amount bid shall be written in figures in the proper place on the bid form. The total amount bid shall be determined by adding the amounts bid for each item.
6. Changes to any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Bidder shall initial the change in ink. Do not use correction fluid, correction tape or similar product to make corrections.
7. The bid shall be properly executed on the included **Execution of Bid – Non-collusion Affidavit, Debarment Certification and Gift Ban Certification** form. All bids shall show the following information:
 - a. Name of corporation, partnership, limited liability company, joint venture, individual or firm, submitting bid.
Corporations that have a corporate seal should include it on the bid.
 - b. Name of individual or representative submitting bid and position or title held on behalf of the bidder.
 - c. Name, signature, and position or title of witness.
 - d. Completed attestation by Notary Public**Note: Signer, Witness and Notary Public must be different individuals.**
8. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
9. The Bidder shall not add any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
10. **THE PROPOSAL WITH THE ITEMIZED PROPOSAL SHEET ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL BE DELIVERED TO AND RECEIVED IN THE NCDOT DIVISION 14 OFFICE, LOCATED AT 253 Webster Road, 253 Webster Road, by 2:00 PM on, Tuesday, March 10, 2015.**
11. The sealed bid must display the following statement on the front of the sealed envelope:

QUOTATION FOR DN11470610 – VARIOUS, TO BE OPENED AT 2:00 PM ON, Tuesday, March 10, 2015.

12. If delivered by mail, the sealed envelope shall be placed in another sealed envelope and the outer envelope shall be addressed as follows:

**N. C. DEPARTMENT OF TRANSPORTATION
ATTN: JEFFREY ALSPAUGH**

DN11470610 N/A

5

HENDERSON, POLK, TRANSYLVANIA

**253 Webster Road
Sylva, NC 28779**

PROJECT SPECIAL PROVISIONS**GENERAL**

The North Carolina Department of Transportation (NCDOT) is soliciting bids from interested firms to establish a contract to provide labor, equipment, stamped engineered design, materials, supervision and service warranty to provide "on-call" services as needed for emergency/urgent landslide repairs using reinforcement technologies developed for landslide repair conditions (launched soil nails, permanently cased soil nails, self-drilling soil nails, self-drilling micropiles and ancillary items as defined within these specifications). These services will be provided in Henderson, Polk, Transylvania Counties.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient. An increase or decrease in the quantity of any item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for in the contract.

CONTRACT TIME AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 12-18-07)

108

SP1 G10 A

The date of availability for this contract is **April 1, 2015**.

The completion date for this contract is **March 31, 2016**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **One Thousand Dollars (\$ 1000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME & LIQUIDATED DAMAGES

Work requests will be made on an as-needed basis; therefore each request will have its own date of availability and required completion date which will be determined from the information contained in the estimate submitted by the Contractor.

All work will be done at the request of the District Engineer or his representative. Notification will be made via fax or email and will include the location of the work, description of the work to be performed, and the approximate quantities required. Each work request may consist of multiple locations within a general work area. Each notification will be considered a separate and independent project.

Unless otherwise agreed to by the Engineer, repair operations shall commence within **forty-eight (48) hours** from notification of approval of the work request submittal. In the event that the Contractor fails to respond to the work request within **forty-eight (48) hours**, liquidated damages in the amount of **One Thousand Dollars (\$1,000.00) per calendar day, or a portion thereof**, will be deducted from the monies due to the Contractor.

No extensions will be authorized except as authorized by Article 108-10 of the *2012 Standard Specifications*.

The determination towards failure to physically respond in a timely manner will be at the discretion of the Engineer. Failure to respond may result in cancellation of the contract.

No work will be permitted and no contract will be executed until all prerequisite conditions and certifications have been satisfied.

CONTRACT PERIOD:

(2-19-14)

SPD 01-600

This contract shall be effective for one (1) contract period (12 months). At the option of the Department and upon agreement by the Contractor, this contract may be extended for up to two (2) additional one (1) year periods with NO increase in prices each year.

No changes in the terms, condition, etc. of this contract will be made when an extension of the contract is implemented. The Engineer will notify the Contractor in writing prior to renewal of the contract. The Contractor must notify the Engineer in writing within thirty (30) days of notification by the Engineer of his acceptance or rejection of this offer. Failure on the part of the Contractor to reply will be viewed as a rejection of the contract extension.

The Contractor shall provide an ACORD insurance certificate showing a minimum of \$5,000,000 Liability Insurance along with proof of all other legally required insurance.

PROSECUTION AND PROGRESS

The Contractor will be required to prosecute the work in a continuous and uninterrupted manner from the time he begins the work until completion and final acceptance of the project. The contractor will not be permitted to suspend his operations except for reasons beyond his control except where the Engineer has authorized a suspension of the contractor's operations in writing.

The Contractor shall pursue the work diligently with workmen in sufficient numbers, abilities, and supervision, and with equipment, materials, and methods of construction as may be required to complete the work described in the contract by the completion date and in accordance with Section 108 of the *Standard Specifications*.

In the event that the Contractor's operations are suspended in violation of the above provisions, the sum of **One Thousand Dollars (\$1,000.00)** will be charged the Contractor for each and every calendar day that such suspension takes place. The said amount is hereby agreed upon as liquidated damages due to extra engineering and maintenance costs and due to increased public hazard resulting from a suspension of the work. Liquidated damages chargeable due to suspension of the work will be additional to any liquidated damages that may become chargeable due to failure to complete the work on time.

NO MAJOR CONTRACT ITEMS:

(2-19-02) (Rev. 8-21-07)

104

SP1 G31

None of the items included in this contract will be major items.

NO SPECIALTY ITEMS:

(7-1-95)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the 2012 *Standard Specifications*).

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (DIVISIONS):

(10-16-07)(Rev. 12-17-13)

102-15(J)

SP1 G67

Description

The purpose of this Special Provision is to carry out the North Carolina Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with State funds.

Definitions

Additional MBE/WBE Subcontractors - Any MBE/WBE submitted at the time of bid that will not be used to meet either the MBE or WBE goal. No submittal of a Letter of Intent is required.

Committed MBE/WBE Subcontractor - Any MBE/WBE submitted at the time of bid that is being used to meet either the MBE or WBE goal by submission of a Letter of Intent. Or any MBE or WBE used as a replacement for a previously committed MBE or WBE firm.

Contract Goals Requirement - The approved MBE and WBE participation at time of award, but not greater than the advertised contract goals for each.

Goal Confirmation Letter - Written documentation from the Department to the bidder confirming the Contractor's approved, committed MBE and WBE participation along with a listing of the committed MBE and WBE firms.

Manufacturer - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

MBE Goal - A portion of the total contract, expressed as a percentage, that is to be performed by committed MBE subcontractor(s).

Minority Business Enterprise (MBE) - A firm certified as a Disadvantaged Minority-Owned Business Enterprise through the North Carolina Unified Certification Program.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in

stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for MBE/WBE certification. The MBE/WBE program follows the same regulations as the federal Disadvantaged Business Enterprise (DBE) program in accordance with 49 CFR Part 26.

United States Department of Transportation (USDOT) - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

WBE Goal - A portion of the total contract, expressed as a percentage, that is to be performed by committed WBE subcontractor(s).

Women Business Enterprise (WBE) - A firm certified as a Disadvantaged Women-Owned Business Enterprise through the North Carolina Unified Certification Program.

Forms and Websites Referenced in this Provision

Payment Tracking System - On-line system in which the Contractor enters the payments made to MBE and WBE subcontractors who have performed work on the project.
<https://apps.dot.state.nc.us/Vendor/PaymentTracking/>

DBE-IS Subcontractor Payment Information - Form for reporting the payments made to all MBE/WBE firms working on the project. This form is for paper bid projects only.
<http://www.ncdot.org/doh/forms/files/DBE-IS.xls>

RF-1 MBE/WBE Replacement Request Form - Form for replacing a committed MBE or WBE.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Request%20Form.pdf>

SAF Subcontract Approval Form - Form required for approval to sublet the contract.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip>

JC-1 Joint Check Notification Form - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf>

Letter of Intent - Form signed by the Contractor and the MBE/WBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed MBE/WBE for the amount listed at the time of bid.
<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

Listing of MBE and WBE Subcontractors Form - Form for entering MBE/WBE subcontractors on a project that will meet this MBE and WBE goals. This form is for paper bids only.
[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20\(State\).docx](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20(State).docx)

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where MBEs and WBEs quoted on the project. This sheet is submitted with good faith effort packages.

<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

MBE and WBE Goal

The following goals for participation by Minority Business Enterprises and Women Business Enterprises are established for this contract:

(A) Minority Business Enterprises 0 %

- (1) *If the MBE goal is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that MBEs participate in at least the percent of the contract as set forth above as the MBE goal.
- (2) *If the MBE goal is zero*, the Contractor shall make an effort to recruit and use MBEs during the performance of the contract. Any MBE participation obtained shall be reported to the Department.

(B) Women Business Enterprises 0 %

- (1) *If the WBE goal is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that WBEs participate in at least the percent of the contract as set forth above as the WBE goal.
- (2) *If the WBE goal is zero*, the Contractor shall make an effort to recruit and use WBEs during the performance of the contract. Any WBE participation obtained shall be reported to the Department.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as MBE and WBE certified shall be used to meet the MBE and WBE goals respectively. The Directory can be found at the following link. <https://partner.ncdot.gov/VendorDirectory/default.html>

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

Listing of MBE/WBE Subcontractors

At the time of bid, bidders shall submit all MBE and WBE participation that they anticipate to use during the life of the contract. Only those identified to meet the MBE goal and the WBE goal will be considered committed, even though the listing shall include both committed MBE/WBE subcontractors and additional MBE/WBE subcontractors. Any additional MBE/WBE subcontractor participation submitted at the time of bid will be used toward overall race-neutral goals. Only those firms with current MBE and WBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of MBE and WBE participation. The Contractor shall indicate the following required information:

- (A) *If either the MBE or WBE goal is more than zero,*
- (1) Bidders, at the time the bid proposal is submitted, shall submit a listing of MBE/WBE participation, including the names and addresses on *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the MBE and WBE participation for the contract.
 - (2) If bidders have no MBE or WBE participation, they shall indicate this on the *Listing of MBE and WBE Subcontractors* by entering the word “None” or the number “0.” This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation.** Bids submitted that do not have MBE and WBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.
 - (3) The bidder shall be responsible for ensuring that the MBE/WBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE’s or WBE’s participation will not count towards achieving the corresponding goal.
- (B) *If either the MBE or WBE goal is zero,* entries on the *Listing of MBE and WBE Subcontractors* are not required for the zero goal, however any MBE or WBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

MBE or WBE Prime Contractor

When a certified MBE or WBE firm bids on a contract that contains MBE and WBE goals, the firm is responsible for meeting the goals or making good faith efforts to meet the goals, just like any other bidder. In most cases, a MBE or WBE bidder on a contract will meet one of the goals by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the MBE or WBE bidder and any other similarly certified subcontractors will count toward the goal. The MBE or WBE bidder shall list itself along with any MBE or WBE subcontractors, if any, in order to receive credit toward the goals.

For example, on a proposed contract, the WBE goal is 10%, and the MBE goal is 8%. A WBE bidder puts in a bid where they will perform 40% of the contract work and have a WBE subcontractor which will perform another 5% of the work. Together the two WBE firms submit on the *Listing of MBE and WBE Subcontractors* a value of 45% of the contract which fulfills the WBE goal. The 8% MBE goal shall be obtained through MBE participation with MBE certified subcontractors or documented through a good faith effort. It should be noted that you cannot combine the two goals to meet an overall value. The two goals shall remain separate.

MBE/WBE prime contractors shall also follow Sections A or B listed under *Listing of MBE/WBE Subcontractors* just as a non-MBE/WBE bidder would.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each MBE/WBE that will be used to meet the MBE and WBE goals of the contract, indicating the bidder's commitment to use the MBE/WBE in the contract. This documentation shall be submitted on the Department's form titled *Letter of Intent*.

The documentation shall be received in the office of the Engineer no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 12:00 noon on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed MBE and WBE to be used toward the MBE and WBE goals, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the MBE/WBE goal. If the lack of this participation drops the commitment below either the MBE or WBE goal, the Contractor shall submit evidence of good faith efforts for the goal not met, completed in its entirety, to the Engineer no later than 12:00 noon of the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 12:00 noon on the next official state business day.

Submission of Good Faith Effort

If the bidder fails to meet or exceed either the MBE or the WBE goal, the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach that specific goal(s).

One complete set and 2 copies of this information shall be received in the office of the Engineer no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 12:00 noon on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of MBE/WBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Consideration of Good Faith Effort for Projects with MBE/WBE Goals More Than Zero

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient MBE/WBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought MBE/WBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The Department will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goals and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.
- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the MBE and WBE goals will be achieved.
 - (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the contract MBE/WBE goals when the work to be sublet includes potential for MBE/WBE participation (2nd and 3rd tier subcontractors).
- (C) Providing interested MBEs/WBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D)
 - (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs/WBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the contract MBE or WBE goals, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.
- (E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in

specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

- (F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs. Contact within 7 days from the bid opening NCDOT's Business Development Manager in the Business Opportunity and Work Force Development Unit to give notification of the bidder's inability to get MBE or WBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the MBE and WBE goal.

In addition, the Department may take into account the following:

- (1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the MBE and WBE goals.
- (2) The bidders' past performance in meeting the MBE and WBE goals.
- (3) The performance of other bidders in meeting the MBE and WBE goals. For example, when the apparent successful bidder fails to meet the goals, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goals. If the apparent successful bidder fails to meet the MBE and WBE goals, but meets or exceeds the average MBE and WBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the MBE and WBE goals can be met or that an adequate good faith effort has been made to meet the MBE and WBE goals.

Non-Good Faith Appeal

The Engineer will notify the contractor verbally and in writing of non-good faith. A contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the Engineer. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

Counting MBE/WBE Participation Toward Meeting MBE/WBE Goals**(A) Participation**

The total dollar value of the participation by a committed MBE/WBE will be counted toward the contract goal requirements. The total dollar value of participation by a committed MBE/WBE will be based upon the value of work actually performed by the MBE/WBE and the actual payments to MBE/WBE firms by the Contractor.

(B) Joint Checks

Prior notification of joint check use shall be required when counting MBE/WBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 (*Joint Check Notification Form*) and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

(C) Subcontracts (Non-Trucking)

A MBE/WBE may enter into subcontracts. Work that a MBE subcontracts to another MBE firm may be counted toward the MBE contract goal requirement. The same holds for work that a WBE subcontracts to another WBE firm. Work that a MBE subcontracts to a non-MBE firm does not count toward the MBE contract goal requirement. Again, the same holds true for the work that a WBE subcontracts to a non-WBE firm. If a MBE or WBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the MBE or WBE is not performing a commercially useful function. The MBE/WBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption may be subject to review by the Office of Inspector General, NCDOT.

(D) Joint Venture

When a MBE or WBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the MBE or WBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the MBE or WBE performs with its forces.

(E) Suppliers

A contractor may count toward its MBE or WBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a MBE or WBE regular dealer and 100 percent of such expenditures from a MBE or WBE manufacturer.

(F) Manufacturers and Regular Dealers

A contractor may count toward its MBE or WBE requirement the following expenditures to MBE/WBE firms that are not manufacturers or regular dealers:

- (1) The fees or commissions charged by a MBE/WBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be

reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.

- (2) With respect to materials or supplies purchased from a MBE/WBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

(A) MBE/WBE Utilization

The Contractor may count toward its contract goal requirement only expenditures to MBEs and WBEs that perform a commercially useful function in the work of a contract. A MBE/WBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the MBE/WBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a MBE/WBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the MBE/WBE credit claimed for its performance of the work, and any other relevant factors.

(B) MBE/WBE Utilization in Trucking

The following factors will be used to determine if a MBE or WBE trucking firm is performing a commercially useful function:

- (1) The MBE/WBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting the MBE or WBE goal.
- (2) The MBE/WBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The MBE/WBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The MBE may subcontract the work to another MBE firm, including an owner-operator who is certified as a MBE. The same holds true that a WBE may subcontract the work to another WBE firm, including an owner-operator who is certified as a WBE. When this occurs, the MBE or WBE who subcontracts work receives credit for the total value of the transportation services the subcontracted MBE or WBE provides on the contract. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to

WBEs), in order to fulfill the goal requirement. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified transportation service providers and there is no interest or availability, and they can get assistance from other certified providers, the Engineer will not hold the prime liable for meeting the goal.

- (5) The MBE/WBE may also subcontract the work to a non-MBE/WBE firm, including from an owner-operator. The MBE/WBE who subcontracts the work to a non-MBE/WBE is entitled to credit for the total value of transportation services provided by the non-MBE/WBE subcontractor not to exceed the value of transportation services provided by MBE/WBE-owned trucks on the contract. Additional participation by non-MBE/WBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the MBE/WBE and the Contractor will not count towards the MBE/WBE contract requirement.
- (6) A MBE/WBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the MBE/WBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent of the MBE/WBE, so long as the lease gives the MBE/WBE absolute priority for use of the leased truck. This type of lease may count toward the MBE/WBE's credit as long as the driver is under the MBE/WBE's payroll.
- (7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the MBE/WBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

MBE/WBE Replacement

When a Contractor has relied on a commitment to a MBE or WBE firm (or an approved substitute MBE or WBE firm) to meet all or part of a contract goal requirement, the contractor shall not terminate the MBE/WBE for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another MBE/WBE subcontractor, a non-MBE/WBE subcontractor, or with the Contractor's own forces or those of an affiliate. A MBE/WBE may only be terminated after receiving the Engineer's written approval based upon a finding of good cause for the termination.

All requests for replacement of a committed MBE/WBE firm shall be submitted to the Engineer for approval on Form RF-1 (*Replacement Request*). If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months.

The Contractor shall comply with the following for replacement of a committed MBE/WBE:

(A) Performance Related Replacement

When a committed MBE is terminated for good cause as stated above, an additional MBE that was submitted at the time of bid may be used to fulfill the MBE commitment. The same holds true if a committed WBE is terminated for good cause, an additional WBE that was submitted at the time of bid may be used to fulfill the WBE goal. A good faith effort will only be required for

removing a committed MBE/WBE if there were no additional MBEs/WBEs submitted at the time of bid to cover the same amount of work as the MBE/WBE that was terminated.

If a replacement MBE/WBE is not found that can perform at least the same amount of work as the terminated MBE/WBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

- (1) Copies of written notification to MBEs/WBEs that their interest is solicited in contracting the work defaulted by the previous MBE/WBE or in subcontracting other items of work in the contract.
- (2) Efforts to negotiate with MBEs/WBEs for specific subbids including, at a minimum:
 - (a) The names, addresses, and telephone numbers of MBEs/WBEs who were contacted.
 - (b) A description of the information provided to MBEs/WBEs regarding the plans and specifications for portions of the work to be performed.
- (3) A list of reasons why MBE/WBE quotes were not accepted.
- (4) Efforts made to assist the MBEs/WBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

(B) Decertification Replacement

- (1) When a committed MBE/WBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.
- (2) When a committed MBE/WBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named MBE/WBE firm, the Contractor shall take all necessary and reasonable steps to replace the MBE/WBE subcontractor with another similarly certified MBE/WBE subcontractor to perform at least the same amount of work to meet the MBE/WBE goal requirement. If a MBE/WBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

Changes in the Work

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed MBE/WBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a MBE/WBE based upon the Contractor's commitment, the MBE/WBE shall participate in additional work to the same extent as the MBE/WBE participated in the original contract work.

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by MBEs/WBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed MBE/WBE, the Contractor shall seek participation by MBEs/WBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a MBE/WBE, the Contractor shall seek additional participation by MBEs/WBEs equal to the reduced MBE/WBE participation caused by the changes.

Reports and Documentation

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a MBE/WBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving MBE/WBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a MBE/WBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for MBE/WBE credit.

Reporting Minority and Women Business Enterprise Participation

The Contractor shall provide the Engineer with an accounting of payments made to all MBE and WBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

- (A) Withholding of money due in the next partial pay estimate; or
- (B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to MBEs/WBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for further work on future projects until the required information is submitted.

Contractors reporting transportation services provided by non-MBE/WBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments.

The Contractor shall report the accounting of payments on the Department's DBE-IS (*Subcontractor Payment Information*) with each invoice. Invoices will not be processed for payment until the DBE-IS is received.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2012 Standard Specifications* may be cause to disqualify the Contractor.

SUBSURFACE INFORMATION:

(7-1-95)

450

SP1 G112 A

There is **no** subsurface information available on this project. The Contractor shall make his own investigation of subsurface conditions.

LOCATING EXISTING UNDERGROUND UTILITIES:

(3-20-12)

105

SP1 G115

Revise the *2012 Standard Specifications* as follows:

Page 1-43, Article 105-8, line 28, after the first sentence, add the following:

Identify excavation locations by means of pre-marking with white paint, flags, or stakes or provide a specific written description of the location in the locate request.

RESOURCE CONSERVATION:

(5-21-13)

104-13

SP1 G118

In accordance with North Carolina Executive Order 156, NCGS 130A-309.14(2), and NCGS 136-28.8, it is the policy of the Department to aid in the reduction of materials that become a part of our solid waste stream, to divert materials from landfills, and to find ways to recycle and reuse materials for the benefit of the Citizens of North Carolina.

Initiate, develop and use products and construction methods that incorporate the use of recycled or solid waste products in accordance with Article 104-13 of the *2012 Standard Specifications*. Report the quantities of reused or recycled materials either incorporated in the project or diverted from landfills on the Project Construction Reuse and Recycling Reporting Form.

A location-based tool for finding local recycling facilities and the Project Construction Reuse and Recycling Reporting Form are available at:

<http://connect.ncdot.gov/resources/Environmental/Pages/North-Carolina-Recycling-Locations.aspx>

DOMESTIC STEEL:

(4-16-13)

106

SP1 G120

Revise the *2012 Standard Specifications* as follows:

Page 1-49, Subarticle 106-1(B) Domestic Steel, lines 2-7, replace the first paragraph with the following:

All steel and iron products that are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined material cost of the items involved does not exceed 0.1% of the total amount bid for the entire project or \$2,500, whichever is greater. If invoices showing the cost of the material are not provided, the amount of the bid item involving the foreign material will be used for calculations. This minimal amount of foreign produced steel and iron products permitted for use is not applicable to high strength fasteners. Domestically produced high strength fasteners are required.

COOPERATION BETWEEN CONTRACTORS:

(7-1-95)

105-7

SP1 G133

The Contractor's attention is directed to Article 105-7 of the *2012 Standard Specifications*.

[Other Project Location-See Insert]

The Contractor on this project shall cooperate with the Contractor working within or adjacent to the limits of this project to the extent that the work can be carried out to the best advantage of all concerned.

OUTSOURCING OUTSIDE THE USA:

(9-21-04) (Rev. 5-16-06)

SP1 G150

All work on consultant contracts, services contracts, and construction contracts shall be performed in the United States of America. No work shall be outsourced outside of the United States of America.

Outsourcing for the purpose of this provision is defined as the practice of subcontracting labor, work, services, staffing, or personnel to entities located outside of the United States.

The North Carolina Secretary of Transportation shall approve exceptions to this provision in writing.

GIFTS FROM VENDORS AND CONTRACTORS:

(12-15-09)

107-1

SP1 G152

By Executive Order 24, issued by Governor Perdue, and *N.C.G.S. § 133-32*, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e. Administration, Commerce, Correction, Crime Control and Public Safety, Cultural Resources, Environment and Natural Resources, Health and Human Services, Juvenile Justice and Delinquency Prevention, Revenue, Transportation, and the Office of the Governor). This prohibition covers those vendors and contractors who:

- (A) Have a contract with a governmental agency; or
- (B) Have performed under such a contract within the past year; or
- (C) Anticipate bidding on such a contract in the future.

For additional information regarding the specific requirements and exemptions, vendors and contractors are encouraged to review Executive Order 24 and *N.C.G.S. § 133-32*.

Executive Order 24 also encouraged and invited other State Agencies to implement the requirements and prohibitions of the Executive Order to their agencies. Vendors and contractors should contact other State Agencies to determine if those agencies have adopted Executive Order 24.

LIABILITY INSURANCE:

(5-20-14)

SP1 G160

Revise the *2012 Standard Specifications* as follows:

Page 1-60, Article 107-15 LIABILITY INSURANCE, line 16, add the following as the second sentence of the third paragraph:

Prior to beginning services, all contractors shall provide proof of coverage issued by a workers' compensation insurance carrier, or a certificate of compliance issued by the Department of Insurance for self-insured subcontractors, irrespective of whether having regularly in service fewer than three employees.

EMPLOYMENT:

(11-15-11) (Rev. 1-17-12)

108, 102

SP1 G184

Revise the *2012 Standard Specifications* as follows:

Page 1-20, Subarticle 102-15(O), delete and replace with the following:

(O) Failure to restrict a former Department employee as prohibited by Article 108-5.

Page 1-65, Article 108-5 Character of Workmen, Methods, and Equipment, line 32, delete all of line 32, the first sentence of the second paragraph and the first word of the second sentence of the second paragraph.

STATE HIGHWAY ADMINISTRATOR TITLE CHANGE:

(9-18-12)

SP1 G185

Revise the *2012 Standard Specifications* as follows:

Replace all references to "State Highway Administrator" with "Chief Engineer".

SUBLETTING OF CONTRACT:

(11-18-2014)

108-6

SP1 G186

Revise the *2012 Standard Specifications* as follows:

Page 1-66, Article 108-6 Subletting of Contract, line 37, add the following as the second sentence of the first paragraph:

All requests to sublet work shall be submitted within 30 days of the date of availability or prior to expiration of 20% of the contract time, whichever date is later, unless otherwise approved by the Engineer.

Page 1-67, Article 108-6 Subletting of Contract, line 7, add the following as the second sentence of the fourth paragraph:

Purchasing materials for subcontractors is not included in the percentage of work required to be performed by the Contractor. If the Contractor sublets items of work but elects to purchase material for the subcontractor, the value of the material purchased will be included in the total dollar amount considered to have been sublet.

DIVISION LET CONTRACT PREQUALIFICATION:

(07-01-14)

SPD 01-410

Any firm that wishes to bid as a prime contractor shall be prequalified as a Bidder or PO Prime Contractor prior to submitting a bid. Information regarding prequalification can be found at: <https://connect.ncdot.gov/business/Prequal/Pages/default.aspx>.

CONTRACT PAYMENT AND PERFORMANCE BOND:

(01-30-14)

102-8, 102-10

SPD 01-420

A performance bond in the amount of one hundred percent (100%) of the contract amount, conditioned upon the faithful performance of the contract in accordance with specifications and conditions of the contract is required for contracts of \$500,000 or more. Such bond shall be solely for the protection of the North Carolina Department of Transportation and the State of North Carolina.

A payment bond in the amount of one hundred percent (100%) of the contract amount, conditioned upon the prompt payment for all labor or materials for which the Contractor, or his subcontractors, are liable is required for Construction contracts greater than \$500,000. The payment bond shall be solely for the protection of persons or firms furnishing materials or performing labor for this contract for which the Contractor is liable.

The successful bidder, within fourteen (14) days after notice of award, shall provide the Department with a contract payment bond and a contract performance bond each in an amount equal to 100 percent of the amount of the contract.

PROJECT SPECIAL PROVISIONS**ROADWAY****CONTRACT REQUIREMENTS**

Work shall consist of the Contractor stabilizing identified landslides by internally reinforcing the soil mass with reinforcing elements (soil nails and/or micropiles) using installation methods as specified in this contract. NCDOT will identify locations of all work to be performed as specified herein.

The Contractor may be called out for a site visit prior to issuance of a Work Request. The purpose of the site visit will be for the Contractor to evaluate and prepare an estimate of the materials and services needed to repair the site to the engineer's specifications. Unless otherwise requested by NCDOT, Contractor shall schedule the site visit within **twenty-four (24) hours** following notification by NCDOT personnel, and shall provide a detailed written estimate of materials and services needed to repair the site to NCDOT's specifications within **twenty-four (24) hours** following the site visit. Any necessary subsurface exploration, site survey, and slope stability modeling to prepare the estimate is the responsibility of the Contractor. **All written estimates must contain a warranty statement guaranteeing the roadway platform stability for the repaired section for a period of five (5) years and that any necessary repairs will be made in a timely manner at no cost to NCDOT. This warranty statement must be jointly endorsed by the Contractor and the Contractor's Engineer.**

Following issuance of a Work Request, the Contractor will provide all necessary engineering plans and details required to successfully repair landslides. These plans shall be stamped by a Registered Professional Engineer (PE), licensed in the State of North Carolina, who is knowledgeable and experienced in the design and implementation of slope stabilization with soil nails and related work. Changes or deviations from the approved submittals must be resubmitted for approval. No adjustments in project time will be allowed due to incomplete submittals. The PE stamped submittals shall include at a minimum the following information:

1. A description of the soil nail construction sequence and a schedule for the work.
2. A description and detail of the size and spacing of soil nails to be placed in order to meet minimum static/seismic factors of safety for global stability of the repair. The materials and components selected will meet a 75-year design life. Designs will include consideration of appropriate loadings, geometry, and material properties associated with the native soils, backfill, reinforcement connections, facing, and other design elements.
3. All necessary details to successfully construct any temporary/permanent facing and drainage system.

The Division Engineer or his duly appointed representative will review the estimate submitted by the contractor and once measures needed have been agreed upon, contractor will be given the approval to commence work.

Unless otherwise approved by NCDOT, repair operations commencement and submittal of stamped plans shall be within **forty-eight (48) hours** after receipt of a Work Request. Once repair has commenced, it

must continue until completion. The Contractor must also have the ability to design and repair three (3) sites at the same time, if necessary, to efficiently provide maintenance and emergency repairs as required.

CONTRACTOR QUALIFICATIONS

Timeliness of Contract Execution is critical to the success of emergency/urgent repairs. To meet the needs of providing emergency design/build services, the Bidder must show that they have enough registered professional engineers on staff (consultants and manufacturer's representatives will not qualify) and enough operational soil nail installation rigs and crews to design, supervise, and repair to up to **three (3)** sites simultaneously, and have extensive experience repairing landslides under active roadway traffic. NCDOT reserves the right to contact references and investigate past performance and qualifications of the Bidder, and employees, including contacting third parties and/or the references provided by the Bidder.

The equipment offered by bidders shall be suitable for the intended purpose and shall meet all North Carolina regulations. All Crew persons and operators shall possess the knowledge, skills, and abilities to perform all aspects of operation of the equipment and to follow the practices and methods of roadway maintenance and construction used by NCDOT. The Contractor shall submit documentation showing that project personnel have appropriate qualifications.

The contractor's operators shall not create any hazardous condition with the operation of the equipment. All personnel shall, at all times, wear approved protective clothing, safety vests, and any other equipment required to meet OSHA and NCDOT standards. They will obey all traffic and safety rules and regulations.

To assist NCDOT in the review of the Bidder's qualifications, the Bidder shall provide written documentation showing how the Bidder meets the requirements outlined below. The Bidder shall submit all qualification information at the time of bidding. Incomplete bids will not be considered.

1. Firm Qualifications:
 - a. At least ten (10) years of experience repairing landslides.
 - b. Recent and relevant experience with each of the nail/micropile types specified in this contract. Within the last five (5) years, Bidder must show that they have successfully engineered and constructed the following minimum number of active landslide repairs on active, public roadways while maintaining traffic on the impacted roadway using:
 - i. Launched Soil Nails (10 projects)
 - ii. Permanently Cased Soil Nails (10 projects)
 - iii. Self-Drilling Soil Nails (10 projects)
 - iv. Self-Drilling Micropiles (10 projects)
 - c. Submit documentation showing personnel have appropriate qualifications in Attachment B.

2. Supervising Professional Engineer Qualifications (three individuals):
 - a. The Contractor's Engineers must be under full-time employment of the Bidder and have at least three (3) years of verifiable experience with the Contractor in landslide stabilization using soil nails and micropiles.
 - b. The Contractor shall submit documentation showing that the Engineers have successfully designed no less than ten (10) total projects for the Contractor within the last five (5) years which successfully stabilized an active landslide using the soil nail/micropile types specified in this contract (at least one each: launched soil nails, permanently cased soil nails, self-drilling soil nails, self-drilling micropiles) on an active, public roadway while maintaining traffic on the impacted roadway.
 - c. Submit documentation showing personnel have appropriate qualifications in Attachment B.
3. Project Manager/Superintendent Qualifications (three individuals):
 - a. The Contractor's Project Managers/Superintendents must be under full-time employment of the Bidder and have at least five (5) years of verifiable experience with the Contractor in landslide stabilization using soil nails and micropiles.
 - b. The Contractor shall submit documentation showing that the Project Managers/Superintendents have successfully managed no less than ten (10) total projects within the last five (5) years which successfully stabilized an active landslide using the soil nail/micropile types specified in this contract (at least one each: launched soil nails, permanently cased soil nails, self-drilling soil nails, self-drilling micropiles) on an active, public roadway while maintaining traffic on the impacted roadway.
 - c. Submit documentation showing personnel have appropriate qualifications in Attachment B.
4. Soil Nail rig operators (three individuals):
 - a. Have successfully operated rigs for the Contractor on no less than five projects within the last five years which successfully stabilized an active landslide using soil nails or micropiles on an active, public roadway while maintaining traffic on the impacted roadway.
 - b. Submit documentation showing personnel have appropriate qualifications in Attachment B.
5. Shotcrete Nozzlemen (three individuals):
 - a. Current ACI Nozzlemen Certification.
 - b. Have successfully installed no less than 10,000 square of shotcrete within the last five (5) years on an active, public roadway while maintaining traffic on the impacted roadway.
 - c. Submit documentation showing personnel have appropriate qualifications in Attachment B.

Replacement of these key personnel will only be permitted with the prior written approval of NCDOT.

Proposed replacements shall demonstrate their experience with the elements listed in the previous sections.

1. The Bidder shall provide a copy of any official documentation which reflects any written warnings or violations of any local, state, or federal environmental laws or regulations during the last ten (10) years.
2. NCDOT will evaluate to determine if the Bidder's criminal history demonstrates inappropriate character, integrity, reputation, judgment, and experience of the Bidder.
3. At NCDOT's request, provide any additional explanation or information, which would assist in evaluating the qualifications of the Bidder, and bid price.
4. The bidder shall submit qualification information at the time of bidding. Incomplete bids will not be considered.

MOBILIZATION

Mobilization will be paid for each location of work in which equipment cannot move to under the equipment's own power.

EXCAVATION AND DISPOSAL OF MATERIAL

The North Carolina Department of Transportation will perform all necessary excavation for this project. Removal of all excavated excess materials resulting from work on this project will also be performed by State Forces.

FINAL ACCEPTANCE

Final acceptance will be made only after the satisfactory completion of all work covered by this contract. All work shall be completed in a neat, workmanlike manner. That work which has not been completed in such a manner will not be accepted.

AGGREGATE PRODUCTION

Provide aggregate from a producer who uses the current Aggregate Quality Control/Quality Assurance Program, which is in effect at the time of shipment.

No price adjustment is allowed to contractors or producers who use the program. Participation in the program does not relieve the producer of the responsibility of complying with all requirements of the *Standard Specifications*. Copies of this procedure are available upon request from the Materials and Test Unit.

SOIL NAILS FOR SLOPE REPAIR

The Contractor, at his option and at the approval of the Engineer, may install soil nails for slope repair by means of launching soil nails or the use of self-drilling soil nails. All work for *Installing Soil Nails for Slope Repair* shall be in accordance with the special provisions contained elsewhere in this contract for *Launched Soil Nails for Slope Repair* and *Self Drilling Soil Nails for Slope Repair*.

LAUNCHED SOIL NAILS FOR SLOPE REPAIR

1. GENERAL

The work under this provision consists of design, plan preparation, and construction of launched soil nails for slope repairs at locations directed by the Engineer.

No disturbance to the terrain or vegetation adjacent to the repaired slopes will be allowed.

2. LAUNCHED SOIL NAILS, LAUNCHER AND APPLICATION LIMIT

The launcher typically launches steel nails up to 1.5 inches in diameter and up to 20 feet or longer in length. Launched soil nails are launched at speeds of over 200 miles per hour, at pressures approaching 2500 psi.

In general, using 20-foot long nails, launched soil nailing is limited to slides where the thickness from the slope surface to the slide plane is no more than about 15 feet. The excavator used with the launcher may have a limit of no more than 35 feet up or down a slope. However, these restrictions do not limit the proposed design.

3. QUALITY ASSURANCE

The superintendent is required to have a minimum of three years experience and the soil nail launcher operators and on-site supervisors are required to have a minimum of one year experience installing permanent launched soil nails. Submit a list identifying the superintendent, soil nail launcher operators, and on-site supervisors assigned to the project before starting the work. Summarize each individual's experience sufficiently for the Engineer to evaluate the individual's qualifications. Do not use consultants or manufacturer's representatives to satisfy the requirements of this provision.

All nozzlemen are required to have at least one year of continuous experience in similar shotcrete application work and demonstrate ability to satisfactorily place the material in accordance with the recommendations of ACI 506.3R Guide to Certification of Shotcrete Nozzlemen. Present evidence of the certification to the requirements of ACI 506.3R of the proposed nozzlemen within the last five years.

Do not start work or order materials until the personnel qualifications have been approved by the Engineer. The Engineer may suspend the work if non-approved personnel are substituted for approved personnel. No adjustments in the contract time or costs resulting from the work suspension will be allowed.

4. DESIGN CRITERIA

Review all available subsurface information and conduct additional investigations, as needed prior to beginning design.

Design the launched soil nails for slope repair in accordance with the following references.

- Application Guide for Launched Soil Nails, USDA Forest Service, EM 7170-12A, FHWA-FPL-93-003, July 1994
- Project Report for Launched Soil Nails – 1992 Demonstration Project, USDA Forest Service, EM 7170-12B, FHWA-FPL-93-004, July 1994

Shotcrete facing, if proposed, is required to have a minimum of 6 inches in thickness and reinforced with welded wire mesh. Geocomposite drainage mats at minimum 10 foot centers are required if shotcrete facing is proposed.

Prepare plans to include but not limited to the following:

- Elevation views showing all nail locations, existing ground line elevations and stations.
- Plan views
- Typical section views showing shotcrete (if needed), nail locations, nail inclinations and drainage details (if needed), etc.
- Details of drainage mats, if needed.
- Verification test nail locations and required design adhesion values.
- Construction sequence

5. CONSTRUCTION SUBMITTALS

Provide the following submittals for the Engineer's review and approval. Re-submit all changes or deviations from the reviewed submittals for approval by the Engineer. Wall construction will not be allowed to begin until all submittal requirements are satisfied and found acceptable to the Engineer. No adjustments in contract time will be allowed due to incomplete submittals. Items listed below that have been included on the prepared plans and have been found acceptable need not be resubmitted.

Submit the following to the Engineer for review before initiating the work:

- a. Proposed schedule and detailed launched soil nails for slope repair construction sequences.
- b. Launched soil nail testing methods and equipment including:
 - Details of the jacking frame and appurtenant bracing.
 - Details showing methods of isolating test nails during shotcrete application (i.e., methods to prevent bonding of the launched soil nail bar and the shotcrete).
 - Equipment list.

- c. Provide the identification number and certified calibration records for each load cell, test jack pressure gauge, and jack master pressure gauge to be used. Include the date tested, device identification number, and certified calibration test results for an accuracy of at least two percent of the applied certification loads by a qualified independent testing laboratory within 30 days before the submittal.
- d. Certified mill test results for nail bars together with properly marked samples from each heat specifying the ultimate strength, yield strength, elongation and composition.
- e. Shotcrete Placement (if needed):
 - Written documentation of the nozzlelemen qualifications. Resubmit at any subsequent time for new or additional nozzlelemen.
 - Proposed methods of shotcrete placement and of controlling and maintaining facing alignment and location and shotcrete thickness.
 - Shotcrete mix design performed by a Certified ACI Level II Technician including:
 - a) Type of Portland cement.
 - b) Aggregate source and gradation.
 - c) Proportions of mix by weight and water-cement ratio.
 - d) Proposed admixtures, manufacturer, dosage, technical literature.
 - Compressive strength test results verifying the 3-day and 28-day compressive strengths.
 - Previous strength test results for the proposed shotcrete mix completed within one year of the start of shotcreting may be submitted for initial verification of the required compressive strengths at start of production work.
- f. Complete engineering data for the drainage geotextile and Geocomposite drain strip including a one (1) ft square sample, manufacturers' certificate of compliance, and installation instructions (if used).
- g. Certifications of Compliance for weep hole drainage pipes and curing compounds (if used).
- h. Specification and data for review on equipment proposed for the project including shotcreting and compressed air equipment, proposed access arrangements, and capacities.

6. MATERIALS

6.1 Launched Soil Nails

Furnish launched soil nails that are either solid or hollow steel bars with a nominal outer diameter up to 1.5 inches and up to 25 feet or longer in length. The minimum hollow steel bars wall thickness is 0.120. Use ASTM A513, Type 1-5, galvanized steel tubes without splices or lateral welds. Use only new, straight, undamaged, and galvanized bars. Do not reuse excess cutoffs from previously launched nails.

6.2 Geocomposite Drain, Weepholes and Drainage Pipe

Geocomposite Drain	Miradrain 6200 or Equal.
Weep Hole	ASTM 1785 Schedule 40 PVC, solid and perforated wall.
Drainage Pipe	Cell classification 12454-B or 12354-C, wall thickness SDR 35, with solvent weld or elastomeric gasket joints.

7. HANDLING AND STORAGE

Carefully handle all steel reinforcement items and nail steel and store on supports to prevent contact with the ground. Damage to the nail steel as a result of abrasion, cuts or nicks, welds and weld spatter will be the cause for rejection. Grounding of welding leads to the nail steel will not be allowed. Protect nail steel from dirt, rust, and other deleterious substances at all times. Corrosion or pitting of the nails will be cause for rejection.

Provide drainage geotextile and Geocomposite drains in rolls wrapped with a protective covering and stored in a manner which protects the fabric from mud, dust, dirt, debris, and shotcrete rebound. Do not remove protective wrapping until the geotextile or drain strip is installed. Avoid extended exposure to ultra-violet light. Label each roll of geotextile or drain strip in the shipment to identify that production run.

8. CONSTRUCTION

8.1 Launched Soil Nails

Furnish launched soil nails and equipment and incidentals necessary to complete work. Insert launched soil nails with a single stroke at initial velocities in excess of 200 miles per hour.

Install launched soil nails at the locations and to the lengths as shown in the plans or designated by the Engineer. Nails may be added, eliminated, or relocated as determined by the Engineer to accommodate actual field conditions.

Do not leave more than 4 feet of soil nail exposed after launching unless approved by the Engineer. Cut off the exposed portion of installed nails flush with ground level or as directed by the Engineer. Dispose of the cut-off portions of the launch soil nails off the right of way at sites obtained by the Contractor at no additional cost to the Department. Do not reuse remaining lengths from cut nails for launched soil nails.

8.2 Drainage Network

The drainage network consists of installing prefabricated Geocomposite drainage strips and weep hole drain pipes as shown in the plans or as directed by the Engineer. Install all elements of the drainage network before installing shotcrete.

8.2.1 Geocomposite Drain Strips

Install Geocomposite drain strips as shown in the plans. Place drain strips at construction joints such that the joint is aligned as close as practical along the middle of the longitudinal axis of the drain strip.

Secure at least 12 inches wide Geocomposite drain strips to the cut face with the geotextile side against the ground before shotcreting. Use at least 8 inches long securing pins with a 1.5 inch diameter head and installed on a minimum grid pattern of 24 inches on center. Use only continuous drain strips. Use splices with a 12-inch minimum overlap such that the flow is not impeded.

When the drain strips cannot be secured tight against the slope face, place polyethylene film over the drain edges to prevent excess shotcrete from entering the sides of the drain. Alternatively, the drains may be installed in 16 inch wide strips and the film omitted.

8.2.2 Weep Hole Drainage Pipes

Install weep hole drainage pipes at locations shown in the plans or as directed by the Engineer. Use no more than 10 feet between weep holes. Use pipe lengths of solid PVC pipe installed to direct water from the Geocomposite drain strips to the outside of the shotcrete facing. Connect pipes to the drain strips by installing prefabricated drain grates in accordance with the drain strip manufacturer's recommendations. Seal joints between the drain grate, the drain strip and the drainage pipe to prevent shotcrete intrusion. Installation of additional weep holes will be required, for any Geocomposite drainage boards that are damaged and may cause interruption in flow as determined by the Engineer. The department for this work or additional materials will make no additional payment.

9. SAMPLING AND TESTING

Acceptance of the launch soil nails will be by Manufacturer's and/or Vendor's certification to the Engineer stating the material composition conforms to this provision and visual inspection of the in place nails by the Engineer.

Proof testing of the nails may be requested by NCDOT. Supply all material, equipment, and labor to perform the tests. The Engineer will collect all required data with the assistance of the Contractor. Do not perform testing on nails within three days of shotcrete application.

If requested by NCDOT, perform proof testing on up to five percent of the production nails in each slope repair site to verify the methods and the design nail capacity. The Engineer will determine the locations and number of these tests.

Materials found not in compliance with the requirements of this Contract may be rejected, removed and replaced at the Vendor's expense, or accepted at a reduction in Contract price determined by the Engineer.

10. MEASUREMENT AND PAYMENT

10.1 Launched Soil Nails

The Department will measure Launched Soil Nails in individual nails, each. Upon receipt of proper invoices, the Department will pay for the materials delivered and accepted at the Vendor's unit bid price per each Soil Nail. The Department will not make payment for partial deliveries. Payment at the Contract unit price each will be full compensation for all labor, materials, equipment, and incidentals to furnish and place Launched Soil Nails

Payment will be made under:

Furnish & Install Launched Soil Nails up to 20' Each

SELF DRILLING SOIL NAILS FOR SLOPE REPAIR

Furnish self-drilling soil nails that consist of a hollow, threaded bar with a sacrificial drill bit. Multiple bars may be coupled to produce final length. Bar thread pattern should be continuous and conform to ASTM A 615 (Williams Form Engineering "B7X" or Ischebeck "Titan" bars, or approved equivalent). R-thread bars, bars/couplers made from high carbon (>0.20%) or high phosphorous (>0.06%) steels, or bars/couplers made from steels that do not meet the tensile ductility requirements of ASTM A 615 are not allowed. Bar outer diameters shall be a minimum of 1.5 inches (38/40 mm) and up to and 3 inches (70/71 mm) depending on design load.

Use drilling rigs capable of drilling through whatever materials are encountered to the dimensions and orientations required for the soil nail wall design. Drill straight and clean holes at locations shown in the accepted submittals. Drill hole locations and inclinations are required to be within 6" (150 mm) and 5 degrees, respectively, of that shown in the accepted submittals unless approved otherwise by the Engineer. Drill all self-drilling nails with continuous grout injection unless approved otherwise by the Engineer.

NCDOT will measure self-drilling soil nails in seven units of measure. They will be measured up to 20 feet, up to 30 feet, up to 40 feet, up to 50 feet, up to 60 feet, up to 70 feet, and up to 80 feet in length.

NCDOT will not make payment for materials on site and not installed. Upon receipt of proper invoices, NCDOT will pay for the materials delivered and installed and accepted at the Contractors unit price per Soil Nail. NCDOT will not make payment for materials on site and not installed. Payment at the Contract unit price each shall be full compensation for all labor, materials, equipment, and incidentals to furnish and place required Soil Nails.

Payment will be made under:

Furnish & Install Self-Drilling Soil Nails up to 20'	Each
Furnish & Install Self-Drilling Soil Nails up to 30'	Each
Furnish & Install Self-Drilling Soil Nails up to 40'	Each
Furnish & Install Self-Drilling Soil Nails up to 50'	Each
Furnish & Install Self-Drilling Soil Nails up to 60'	Each
Furnish & Install Self-Drilling Soil Nails up to 70'	Each
Furnish & Install Self-Drilling Soil Nails up to 80'	Each

PERMANENTLY CASED SOIL NAILS

Furnish Permanently Cased Soil Nails that are a three stage construction including installation of (1) an outer tube (1.5 inch outside diameter, 0.120 inch wall thickness hot-dipped galvanized steel tube that is mechanically deformed or galvanized to produce a plurality of surficial asperities); (2) neat cement grout that completely fills the outer tube; and (3) an inner bar consisting of epoxy coated, #6 (or greater) grade 60 or grade 75 rebar or threadbar. When applicable, provide perforated tubes that can be pressure grouted.

Permanently Cased Soil Nails will be constructed by launching an outer tube with a single stroke at initial velocities in excess of 200 miles per hour or by drilling a hole to prescribed depth at the prescribed location as shown on the plans, inserting a 1.5 inch outside diameter steel pipe (Outer Tube) fully encasing the inside of the Outer Tube with grout (neat cement) and immediately inserting an epoxy coated #6 reinforcing rebar as the Inner Bar. Provide perforated tube and grout under pressure when applicable. The Contractor bears the risk of unforeseen groundwater or adverse launching or drilling conditions.

NCDOT will measure Permanently Cased Soil Nails in seven units of measure. They will be measured up to 20 feet, up to 30 feet, up to 40 feet, up to 50 feet, up to 60 feet, up to 70 feet, and up to 80 feet in length. NCDOT will not make payment for materials on site and not installed. Upon receipt of proper invoices, NCDOT will pay for the materials delivered and installed and accepted at the Contractors unit price per Permanently Cased Soil Nail. NCDOT will not make payment for materials on site and not installed. Payment at the Contract unit price each shall be full compensation for all labor, materials, equipment, and incidentals to furnish and place required Nails.

Payment will be made under:

Furnish & Install Permanently Cased Soil Nails up to 20'	Each
Furnish & Install Permanently Cased Soil Nails up to 30'	Each
Furnish & Install Permanently Cased Soil Nails up to 40'	Each
Furnish & Install Permanently Cased Soil Nails up to 50'	Each
Furnish & Install Permanently Cased Soil Nails up to 60'	Each
Furnish & Install Permanently Cased Soil Nails up to 70'	Each
Furnish & Install Permanently Cased Soil Nails up to 80'	Each

SELF-DRILLING MICROPILES FOR SLOPE REPAIR

Furnish self-drilling micropiles that consist of a hollow, threaded bar with a sacrificial drill bit. Multiple bars may be coupled to produce final length. Bar thread pattern should be continuous and conform to ASTM A 615 (Williams Form Engineering "B7X" or Ischebeck "Titan" bars, or approved equivalent). R-thread bars are not allowed. Bar outer diameters shall be a minimum of 2 inches and up to and 3 inches depending on design load.

Use drilling rigs capable of drilling through whatever materials are encountered to the dimensions and orientations required for the soil nail wall design. Drill straight and clean holes at locations shown in the accepted submittals. Drill hole locations and inclinations are required to be within 6" (150 mm) and 5 degrees, respectively, of that shown in the accepted submittals unless approved otherwise by the Engineer. Drill all self-drilling micropiles with continuous grout injection unless approved otherwise by the Engineer.

NCDOT will measure self-drilling micropiles in seven units of measure. They will be measured up to 20 feet, up to 30 feet, up to 40 feet, up to 50 feet, up to 60 feet, up to 70 feet, and up to 80 feet in length. NCDOT will not make payment for materials on site and not installed. Upon receipt of proper invoices, NCDOT will pay for the materials delivered and installed and accepted at the Contractors unit price per micropile. NCDOT will not make payment for materials on site and not installed. Payment at the Contract unit price each shall be full compensation for all labor, materials, equipment, and incidentals to furnish and place required micropile.

Payment will be made under:

Furnish & Install Self-Drilling Micropiles up to 20'	Each
Furnish & Install Self-Drilling Micropiles up to 30'	Each
Furnish & Install Self-Drilling Micropiles up to 40'	Each
Furnish & Install Self-Drilling Micropiles up to 50'	Each
Furnish & Install Self-Drilling Micropiles up to 60'	Each
Furnish & Install Self-Drilling Micropiles up to 70'	Each
Furnish & Install Self-Drilling Micropiles up to 80'	Each

WIRE MESH SURFACE TREATMENT (INCLUDES PLATES)

This work shall consist of furnishing and installing high strength single twist wire mesh to prevent shallow plane failures around a soil nail array.

Mesh Type: High strength single twist rockfall mesh

Wire diameter: .118 inches or greater

Wire Strength: 75 ksi or greater

Wire Coating: Minimum of 0.8 ounces/square foot (as determined by ASTM A-90) Zinc/Aluminum Alloy (as per ASTM B750-09). Plain hot-dip galvanized is not acceptable.

Mesh Opening Size: 2.56 inches or smaller (using maximum circle method), area of opening shall not be less than 8.2 square inches

Plate Material: ASTM A36 Steel or stronger

Plate Coating: Hot dip galvanized in accordance with ASTM A153/A123

Plate Thickness: 3/8 or 1/2 inch, depending on design

Plate dimensions: Square or Diamond Shaped, minimum area 48 square inches

The mesh shall be stretched tight across the slope and over the nail tips. Shallow depressions at least 12 inches in diameter shall be dug around the nail tips. Galvanized steel plates shall be installed over the nail tips and post-tensioned to up to 10,000 pounds-force, as specified on the plans. Torque-tension relationships may be used to verify appropriate loading.

NCDOT will measure wire mesh surface treatment in square feet. Payment at the contract unit price per square foot shall be full compensation for all materials, labor, and equipment necessary for the placement of the wire mesh surface treatment.

Payment will be made under:

Furnish & Install Wire Mesh Surface Treatment..... Square Foot

REINFORCED SHOTCRETE

Materials

Furnish shotcrete complying with the requirements of ACI 506.2, "Specifications for Materials, Proportioning and Application of Shotcrete", except as otherwise specified. Shotcreting consists applying of one or more layers of concrete conveyed through a hose pneumatically projected at a high velocity against a prepared surface.

Produce shotcrete by either a wet-mix or a dry-mix process. The wet-mix process consists of thoroughly mixing all the ingredients except accelerating admixtures, but including the mixing water, introducing the mixture into the delivery equipment and delivering it, by positive displacement, to the nozzle. Air jet the wet-mix shotcrete from the nozzle at high velocity onto the surface. The dry-mix process consists of producing shotcrete by delivering the dry ingredients conveyed pneumatically with the mixing water introduced at the nozzle. For additional descriptive information, refer to the American Concrete Institute ACI 506R "Guide to Shotcrete."

Use materials for shotcrete conforming to the following requirements:

Cement AASHTO M85/ ASTM C150, Type I, II, III or V.

Fine Aggregate AASHTO M6/ASTM C33 clean, natural.

Coarse Aggregate AASHTO M80, Class B for quality

Water Clean and Potable. AASHTO M157/ASTM C94

Chemical Admixtures

Accelerator: Fluid type, applied at nozzle, meeting requirements of AASHTO M194/ASTM C494/ASTM C1141.

Water-reducer and Superplasticizer: AASHTO M194/ASTM C494 Type A, C, D, E, F, or G

Retarders: AASHTO M194/ ASTM C494 Type B or D.

Mineral Admixtures

Fly Ash: AASHTO M295/ASTM C618 Type F or C, cement replacement up to 35 percent by weight of cement.

Silica Fume: ASTM C1240, 90 percent minimum silicon dioxide solids content, not to exceed 12 percent by weight of cement.

Welded Wire Fabric AASHTO M55/ASTM A185 or A497.

Prepackaged Shotcrete ASTM C928.

Deliver, store, and handle materials to prevent contamination, segregation, corrosion or damage. Store liquid admixtures to prevent evaporation and freezing.

Obtain Engineer's approval for the proposed mix design and method of placement before beginning shotcrete placement.

Use aggregate for shotcrete meeting the strength and durability requirements of AASHTO, as applicable, and the following gradation requirements:

Sieve Size	Percent Passing by Weight
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1/2"	100
3/8"	90-100
No. 4	70-85
No. 8	50-70
No. 16	35-55
No. 30	20-35
No. 50	8-20
No. 100	2-10

Proportion the shotcrete to be pumpable with the concrete pump furnished for the work, with a cementing materials content of at least 24.3 pounds per cubic foot and water/cement ratio not greater than 0.50. Do not use admixtures unless approved by the Engineer. Thoroughly mix admixtures into the shotcrete at the rate specified by the manufacturer. Use only accelerators compatible with the cement used, non-corrosive to steel, and not promoting other detrimental effects such as cracking or excessive shrinkage. The maximum allowable chloride ion content of all ingredients is 0.10% when tested to AASHTO T260.

Air entrainment is not required for temporary shotcrete construction facings.

Provide shotcrete with a design compressive strength of 2000 psi in 3 days and 4000 psi in 28 days.

Batch aggregate and cement by weight or by volume in accordance with the requirements of ASTM C94 or AASHTO M241/ASTM C685. Use mixing equipment that thoroughly blends the materials in sufficient quantity to maintain placing continuity. Produce ready mix shotcrete complying with AASHTO M157. Batch, deliver, and place shotcrete within 90 minutes of mixing. The use of retarding admixtures may extend application time beyond 90 minutes if approved by the Engineer.

Premixed and packaged shotcrete mix may be provided for on-site mixing. Use packages containing materials conforming to the Material section of this provision. Placing time limit after mixing is per the manufacturers' recommendations.

Store cement adequately to prevent moisture degradation and partial hydration. Do not use cement that is caked or lumpy.

Construction Method

Construct shotcrete with a minimum thickness of **6 inches, 8 inches, or 12 inches** (based on design) with welded-wire fabric a minimum of **2 inches** from the ground surface. Do not begin shotcrete construction or incorporate materials into the work until the submittal requirements are satisfied and accepted by the Engineer. Any changes or deviations from the accepted submittals or re-submittals before proceeding with work are not allowed. No adjustments in contract time will be allowed due to incomplete submittals.

Ensure the minimum thickness of shotcrete using shooting wires, thickness control pins, or other devices acceptable to the Engineer. Install thickness control devices normal to the surface such that they protrude the required shotcrete thickness outside the surface. Ensure that the front face of the shotcrete does not extend beyond the limits established by the Engineer.

Clean the face of the excavation and other proposed shotcrete surfaces of loose materials, mud, rebound, overspray or other foreign matter that could prevent or reduce shotcrete bond. Protect adjacent surfaces from over spray during shooting. Avoid loosening, cracking, or shattering the ground during excavation and cleaning. Remove any surface material that is so loosened or damaged, to a sufficient depth to provide a base that is suitable to receive the shotcrete. Remove material that loosens as the shotcrete is applied. The cost of additional shotcrete is incidental to the work. Divert water flow and remove standing water so that shotcrete placement will not be detrimentally affected by standing water. Do not place shotcrete on frozen surfaces.

Maintain a clean, dry, oil-free supply of compressed air sufficient for maintaining adequate nozzle velocity at all times. Use equipment capable of delivering the premixed material accurately, uniformly, and continuously through the delivery hose. Control shotcrete application thickness, nozzle technique, air pressure, and rate of shotcrete placement to prevent sagging or sloughing of freshly-applied shotcrete.

Begin shotcrete production work only upon initial approval of the design mix and nozzlemen's qualifications and continue if the specified strengths are obtained. Suspend the shotcrete work if the test results of the work do not satisfy the strength requirements and change all or some of the following: the mix, the crew, the equipment, or the procedures. Before resuming work, submit additional test panels using the new crew, materials and/or methods that demonstrate to the satisfaction of the Engineer that the shotcrete in the panels satisfies the specified strength requirements. Provide all work required to obtain satisfactory strength tests at no additional cost to the Department.

Apply the shotcrete from the lower part of the area upward to prevent accumulation of rebound. Orient nozzle at a distance and approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. Pay special attention to encapsulating reinforcement. Do not work rebound back into the construction. Where shotcrete is used to complete the zone of the nail near the face, position the nozzle to completely fill any voids.

A clearly defined pattern of continuous horizontal or vertical ridges or depressions at the reinforcing elements after they are covered with shotcrete will be considered an indication of insufficient reinforcement cover or poor nozzle techniques. In this case immediately suspend the application of shotcrete and implement corrective measures before resuming the shotcrete operations. Correct the shotcreting procedure by adjusting the nozzle distance and orientation, by insuring adequate cover over the reinforcement, by adjusting the water content of the shotcrete mix or other means. Adjustment in water content of wet-mix will require additional submittal and review of the shotcrete mix.

Repair shotcrete surface defects as soon as possible after placement. Remove and replace shotcrete that exhibits segregation, honeycombing, lamination, voids, or sand pockets. In-place shotcrete not meeting the specified strength requirement will be subject to remediation. Possible remediation options include

placement of additional shotcrete thickness or removal and replacement, at no additional cost to the Department.

Taper construction joints uniformly toward the excavation face over a minimum distance equal to the thickness of the shotcrete layer. Provide a minimum reinforcement overlap at reinforcement splice joints as shown in the Construction Plans. Clean and wet the surface of a joint before adjacent shotcrete is applied. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, to the maximum extent practical, clean and dampen the upper grout surface to receive shotcrete, similar to a construction joint.

Use either an undisturbed gun finish as applied from the nozzle or a rough screeded finish. Remove shotcrete extending into the CIP finish face section beyond the tolerances specified herein.

Do not place shotcrete if the ambient air or ground temperature is below 40° F. Maintain cold weather protection if the temperature after place is below 40° F until the in-place compressive strength of the shotcrete is greater than 725 psi. Cold weather protection includes blankets, heating under tents, or other means acceptable to the Engineer. Deposit the shotcrete mix at a temperature of not less than 50° F or more than 100° F.

Suspend shotcrete application during high winds and heavy rains unless suitable protective covers, enclosures or wind breaks are installed. Remove and replace newly placed shotcrete exposed to rain that washes out cement or otherwise makes the shotcrete unacceptable. Provide a polyethylene film or equivalent to protect the work from exposure to adverse weather.

Meeting all federal, state, and local safety code requirements is mandatory.

Sampling and Testing

Acceptance of shotcrete will be by visual inspection by the Engineer of the work, preconstruction test panels (for nozzle men without previous ACI certification), and, if requested by NCDOT, production test panels from the wall facing. If requested by NCDOT, perform shotcreting of test panels using qualified personnel in the presence of the Engineer. Furnish at least one production test panel during the first production application of shotcrete. Construct the production test panels simultaneously with the shotcrete facing installation at times designated by the Engineer. Make production test panels with minimum dimensions of 18"x18" square and at least 4" thick.

Materials found not in compliance with the requirements of this Contract may be rejected, removed and replaced at the Vendor's expense, or accepted at a reduction in Contract price determined by the Engineer.

Shotcrete Shoulder Build-Up may be required to regain roadway width up to 3 feet wide when installing a shotcrete retaining wall. This item includes all necessary components that may not be included in typical Shotcrete bid items such as unique structural design, extra steel reinforcement, coordination with guardrail installer, Sonotube/cutouts for guardrail installation, and any extra required formwork.

Measurement and Payment

The Department will measure Shotcrete in square feet, and Shotcrete Shoulder Build-Up in linear feet. Upon receipt of proper invoices, the Department will pay for the materials delivered and accepted at the Vendor's unit bid price per square foot or linear foot. The Department will not make payment for partial deliveries. Payment at the contract unit price per square foot will be full compensation for all materials, labor, equipment, geocomposite drainage strips, weep holes, reinforcing steel, shotcrete and all incidentals for placing shotcrete around the soil nails and/or micropiles. Payment at the Contract unit price per square foot or linear foot will be full compensation for all labor, materials, equipment, and incidentals to furnish and place shotcrete including but not limited to any preparatory trimming and cleaning of soil/rock surfaces and shotcrete cold joints in preparation for receiving new shotcrete.

Payment will be made under:

Furnish & Install 6" Reinforced Shotcrete.....	Square feet
Furnish & Install 8" Reinforced Shotcrete.....	Square feet
Furnish & Install 12" Reinforced Shotcrete.....	Square feet
Furnish & Install Shotcrete Shoulder Build-Up.....	Linear feet

HORIZONTAL DRAINS

Horizontal drains consist of 1.5-inch diameter (or larger) slotted schedule 80 (or thicker) polyvinyl chloride (PVC) plastic pipe conforming to the requirements of ASTM Designation: D 1785. These pipes are inserted into drilled holes to reduce water pressures within slide masses.

Pipe Slots/Perforations: Slotted pipe shall have 2 rows of slots. The rows shall be in the longitudinal direction of the pipe and the slots shall be cut in the circumferential direction of the pipe. The rows shall be centered on 2 of the third points (120 degrees apart) of the pipe circumference. Each row of slots shall conform to one of the following configurations. Slots shall be spaced uniformly along the pipe. The minimum opening will be measured on the inner surface of the pipe.

Number of Slots (± 3) per meter	Width of Slot (millimeters)	Minimum Opening per meter (square millimeters)
72	1.27	2110
75	0.51	975
151	0.25	975

Perforated pipe shall have 3 rows of perforations with one row on each side of the pipe and the third row in the top. The perforations shall be 10 mm in diameter spaced at 75-mm centers with the top perforations staggered in relation with the holes on either side. Fittings for the PVC plastic pipe shall be Schedule 80 Type II PVC solvent weld type fittings conforming to the requirements in ASTM Designation: D 2467. Machined male and female ends may be used in lieu of couplings. Unslotted or unperforated PVC plastic pipe, between 1 m to 9 m in length, shall be provided at the outlet of the drain.

NCDOT will measure horizontal drains in linear feet. Upon receipt of proper invoices, NCDOT will pay for the materials delivered and accepted at the Contractors unit price per linear feet per site as required. NCDOT will not make payment for partial deliveries. Payment at the contract unit price for each unit shall be full compensation for all materials.

Payment will be made under:

Furnish & Install Horizontal Drains up to 20' Each
 Furnish & Install Horizontal Drains up to 30' Each
 Furnish & Install Horizontal Drains up to 40' Each
 Furnish & Install Horizontal Drains up to 50' Each
 Furnish & Install Horizontal Drains up to 60' Each
 Furnish & Install Horizontal Drains up to 70' Each
 Furnish & Install Horizontal Drains up to 80' Each

PLAN SUBMITTAL

The Contractor shall submit 5 copies of plans and calculations to the Engineer for review and approval in accordance with Section 105-2 of the *Standard Specifications*. Prepare and seal the plans and calculations using a North Carolina Registered Professional Engineer.

Payment will be made under:

Plan Submittal Each

GEOSYNTHETICALLY CONFINED SOIL WALL

Geosynthetically Confined Soil Walls may be used in conjunction with soil nails/micropiles and/or shotcrete to create a wider roadway platform or to construct a small box or abutment wall. This wall shall consist of a standard split faced concrete masonry unit (CMU), road base backfill, and a woven polypropylene geosynthetic fabric placed between each block. Geosynthetically Confined Soil Walls wall will be constructed to lines and grades determined by NCDOT and the Contractor's Engineer. CMU blocks shall meet ASTM C-90 criteria. Backfill (provided by NCDOT) shall be crushed aggregate road base with maximum particle size of 2 inches and with a Plastic Index (PI) below 6. Compaction should be 95% of AASHTO T-180. Geotextile shall be per design but in no case shall have less than a wide width strip tensile capacity of 2400 pounds per foot.

NCDOT will measure Geosynthetically Confined Soil Wall materials (Concrete Masonry Units; each; Geosynthetic Fabric; square feet) separately from Geosynthetically Confined Soil Wall Construction; square feet; to allow NCDOT the option to build the Geosynthetically Confined Soil Wall with their own forces on certain projects. Upon receipt of proper invoices, NCDOT will pay for the materials delivered and accepted at the Contractors unit price per linear feet per site as required. NCDOT will not make payment for partial deliveries. Payment at the contract unit price for each unit shall be full compensation for all materials.

Payment will be made under:

Furnish Concrete Masonry Units Each
 Furnish Geosynthetic Fabric..... Square Feet
 Install Geosynthetically Confined Soil Wall..... Square Feet

MATERIALS:

(2-21-12) (Rev. 3-17-15)

1000, 1002, 1005, 1024, 1050, 1056, 1074, 1078, 1080, 1081, 1086, 1084, 1087, 1092

SP10 R01

Revise the 2012 *Standard Specifications* as follows:

Page 10-1, Article 1000-1, DESCRIPTION, lines 9-10, replace the last sentence of the first paragraph with the following:

Type IL, IP, IS or IT blended cement may be used instead of Portland cement.

Page 10-1, Article 1000-1, DESCRIPTION, line 14, add the following:

Use materials which do not produce a mottled appearance through rusting or other staining of the finished concrete surface.

Page 10-5, Table 1000-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1000-1 REQUIREMENTS FOR CONCRETE											
Class of Concrete	Min. Comp. Strength at 28 days	Maximum Water-Cement Ratio				Consistency Max. Slump		Cement Content			
		Air-Entrained Concrete		Non Air-Entrained Concrete		Vibrated	Non-Vibrated	Vibrated		Non- Vibrated	
		Rounded Aggregate	Angular Aggregate	Rounded Aggregate	Angular Aggregate			Min.	Max.	Min.	Max.
<i>Units</i>	<i>psi</i>					<i>inch</i>	<i>inch</i>	<i>lb/cy</i>	<i>lb/cy</i>	<i>lb/cy</i>	<i>lb/cy</i>
AA	4,500	0.381	0.426	-	-	3.5	-	639	715	-	-
AA Slip Form	4,500	0.381	0.426	-	-	1.5	-	639	715	-	-
Drilled Pier	4,500	-	-	0.450	0.450	-	5-7 dry 7-9 wet	-	-	640	800
A	3,000	0.488	0.532	0.550	0.594	3.5	4	564	-	602	-
B	2,500	0.488	0.567	0.559	0.630	1.5 machine-placed 2.5 hand-placed	4	508	-	545	-
Sand Light-weight	4,500	-	0.420	-	-	4	-	715	-	-	-
Latex Modified	3,000 7 day	0.400	0.400	-	-	6	-	658	-	-	-
Flowable Fill excavatable	150 max. at 56 days	as needed	as needed	as needed	as needed	-	Flow-able	-	-	40	100
Flowable Fill non-excavatable	125	as needed	as needed	as needed	as needed	-	Flow-able	-	-	100	as needed
Pavement	4,500 design, field 650 flexural, design only	0.559	0.559	-	-	1.5 slip form 3.0 hand place	-	526	-	-	-
Precast	See Table 1077-1	as needed	as needed	-	-	6	as needed	as needed	as needed	as needed	as needed
Prestress	per contract	See Table 1078-1	See Table 1078-1	-	-	8	-	564	as needed	-	-

Page 10-1, Article 1000-2, MATERIALS, line 16; Page 10-8, Subarticle 1000-7(A), MATERIALS, line 8; and Page 10-18, Article 1002-2, MATERIALS, line 9, add the following to the table of item references:

Item	Section
Type IL Blended Cement	1024-1

Page 10-7, Table 1000-3, MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO, replace with the following:

Class of Concrete	Rounded Aggregate	Angular Aggregate
AA and AA Slip Form	.366	.410
A	.469	.512
B	.469	.545
Pavement	.538	.538

Page 10-7, Article 1000-5, HIGH EARLY STRENGTH PORTLAND CEMENT CONCRETE, lines 30-31, delete the second sentence of the third paragraph.

Page 10-23, Table 1005-1, AGGREGATE GRADATION-COARSE AGGREGATE, replace with the following:

TABLE 1005-1 AGGREGATE GRADATION - COARSE AGGREGATE													
Percentage of Total by Weight Passing													
Std. Size #	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#10	#16	#40	#200	Remarks
4	100	90-100	20-55	0-15	-	0-5	-	-	-	-	-	A	Asphalt Plant Mix
46/7M	100	95-100	-	35-70	-	0-30	0-5	-	-	-	-	A	Asphalt Plant Mix
5	-	100	90-100	20-55	0-10	0-5	-	-	-	-	-	A	AST, Sediment Control Stone
57	-	100	95-100	-	25-60	-	0-10	0-5	-	-	-	A	AST, Str. Concrete, Shoulder Drain, Sediment Control Stone
57M	-	100	95-100	-	25-45	-	0-10	0-5	-	-	-	A	AST, Concrete Pavement
6M	-	-	100	90-100	20-55	0-20	0-8	-	-	-	-	A	AST
67	-	-	100	90-100	-	20-55	0-10	0-5	-	-	-	A	AST, Str. Concrete, Asphalt Plant Mix
78M	-	-	-	100	98-100	75-100	20-45	0-15	-	-	-	A	Asphalt Plant Mix, AST, Str. Conc. Weep Hole Drains
14M	-	-	-	-	-	100	35-70	5-20	-	0-8	-	A	Asphalt Plant Mix, AST, Weep Hole Drains, Str. Concrete
9	-	-	-	-	-	100	85-100	10-40	-	0-10	-	A	AST
ABC	-	100	75-97	-	55-80	-	35-55	-	25-45	-	14-30	4-12 ^B	Aggregate Base Course, Aggregate Stabilization
ABC (M)	-	100	75-100	-	45-79	-	20-40	-	0-25	-	-	0-12 ^B	Maintenance Stabilization
Light-weight ^C	-	-	-	-	100	80-100	5-40	0-20	-	0-10	-	0-2.5	AST

A. See Subarticle 1005-4(A).

B. See Subarticle 1005-4(B).

C. For Lightweight Aggregate used in Structural Concrete, see Subarticle 1014-2(E)(6).

Page 10-46, Article 1024-1, PORTLAND CEMENT, line 33, add the following as the ninth paragraph:

Use Type IL blended cement that meets AASHTO M 240, except that the limestone content is limited to between 5 and 12% by weight and the constituents shall be interground. Class F fly ash can replace a portion of Type IL blended cement and shall be replaced as outlined in Subarticle 1000-4(I) for Portland cement. For mixes that contain cement with alkali content between 0.6% and 1.0% and for mixes that contain a reactive aggregate documented by the Department, use a pozzolan in the amount shown in Table 1024-1.

Page 10-47, Subarticle 1024-3(B), Approved Sources, lines 16-18, replace the second sentence of the second paragraph with the following:

Tests shall be performed by AASHTO's designated National Transportation Product Evaluation Program (NTPEP) laboratory for concrete admixture testing.

Page 10-65, Article 1050-1, GENERAL, line 41, replace the first sentence with the following:

All fencing material and accessories shall meet Section 106.

Page 10-73, Article 1056-1 DESCRIPTION, lines 7-8, delete the first sentence of the second paragraph and replace with the following:

Use geotextile fabrics that are on the NCDOT Approved Products List.

Page 10-73, Article 1056-2 HANDLING AND STORING, line 17, replace "mechanically stabilized earth (MSE) wall faces" with "temporary wall faces".

Page 10-74, TABLE 1056-1 GEOTEXTILE REQUIREMENTS, replace table with the following:

TABLE 1056-1 GEOTEXTILE REQUIREMENTS						
Property	Requirement (MARV^A)					Test Method
	Type 1	Type 2	Type 3^B	Type 4	Type 5^C	
<i>Typical Application</i>	<i>Shoulder Drains</i>	<i>Under Rip Rap</i>	<i>Temporary Silt Fence</i>	<i>Soil Stabilization</i>	<i>Temporary Walls</i>	
Elongation (MD & CD)	≥ 50%	≥ 50%	≤ 25%	< 50%	< 50%	ASTM D4632
Grab Strength (MD & CD)	Table 1 ^D , Class 3	Table 1 ^D , Class 1	100 lb	Table 1 ^D , Class 3	-	ASTM D4632
Tear Strength (MD & CD)			-		-	ASTM D4533
Puncture Strength			-		-	ASTM D6241
Ultimate Tensile Strength (MD & CD)	-	-	-	-	2,400 lb/ft (unless required otherwise in the contract)	ASTM D4595
Permittivity	Table 2 ^D , 15% to 50% <i>in Situ</i> Soil Passing No. 200 ^E		Table 7 ^D	Table 5 ^D	0.20 sec ⁻¹	ASTM D4491
Apparent Opening Size					No. 30 ^E	ASTM D4751
UV Stability (Retained Strength)					70%	ASTM D4355

- A.** MARV does not apply to elongation
- B.** Minimum roll width of 36" required
- C.** Minimum roll width of 13 ft required
- D.** AASHTO M 288
- E.** US Sieve No. per AASHTO M 92

Page 10-115, Subarticle 1074-7(B), Gray Iron Castings, lines 10-11, replace with the first two sentences with the following:

Supply gray iron castings meeting all facets of AASHTO M 306 excluding proof load. Proof load testing will only be required for new casting designs during the design process, and conformance to M306 loading (40,000 lbs.) will be required only when noted on the design documents.

Page 10-126, Table 1078-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1078-1 REQUIREMENTS FOR CONCRETE		
Property	28 Day Design Compressive Strength 6,000 psi or less	28 Day Design Compressive Strength greater than 6,000 psi
Maximum Water/Cementitious Material Ratio	0.45	0.40
Maximum Slump without HRWR	3.5"	3.5"
Maximum Slump with HRWR	8"	8"
Air Content (upon discharge into forms)	5 + 2%	5 + 2%

Page 10-151, Article 1080-4 Inspection and Sampling, lines 18-22, replace (B), (C) and (D) with the following:

- (B) At least 3 panels prepared as specified in 5.5.10 of AASHTO M 300, Bullet Hole Immersion Test.
- (C) At least 3 panels of 4"x6"x1/4" for the Elcometer Adhesion Pull Off Test, ASTM D4541.
- (D) A certified test report from an approved independent testing laboratory for the Salt Fog Resistance Test, Cyclic Weathering Resistance Test, and Bullet Hole Immersion Test as specified in AASHTO M 300.
- (E) A certified test report from an approved independent testing laboratory that the product has been tested for slip coefficient and meets AASHTO M253, Class B.

Page 10-161, Subarticle 1081-1(A) Classifications, lines 29-33, delete first 3 sentences of the description for Type 2 and replace with the following:

Type 2 - A low-modulus, general-purpose adhesive used in epoxy mortar repairs. It may be used to patch spalled, cracked or broken concrete where vibration, shock or expansion and contraction are expected.

Page 10-162, Subarticle 1081-1(A) Classifications, lines 4-7, delete the second and third sentences of the description for Type 3A. **Lines 16-22**, delete Types 6A, 6B and 6C.

Page 10-162, Subarticle 1081-1(B) Requirements, lines 26-30, replace the second paragraph with the following:

For epoxy resin systems used for embedding dowel bars, threaded rods, rebar, anchor bolts and other fixtures in hardened concrete, the manufacturer shall submit test results showing that the bonding system will obtain 125% of the specified required yield strength of the fixture. Furnish certification that, for the particular bolt grade, diameter and embedment depth required, the anchor system will not fail by adhesive failure and that there is no movement of the anchor bolt. For certification and anchorage, use 3,000 psi as the minimum Portland cement concrete compressive strength used in this test. Use adhesives that meet Section 1081.

List the properties of the adhesive on the container and include density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength and compressive strength.

Page 10-163, Table 1081-1 Properties of Mixed Epoxy Resin Systems, replace table with the following:

TABLE 1081-1 PROPERTIES OF MIXED EPOXY RESIN SYSTEMS							
Property	Type 1	Type 2	Type 3	Type 3A	Type 4A	Type 4B	Type 5
Viscosity-Poises at 77°F ± 2°F	Gel	10-30	25-75	Gel	40-150	40-150	1-6
Spindle No.	-	3	4	--	4	4	2
Speed (RPM)	-	20	20	--	10	10	50
Pot Life (Minutes)	20-50	30-60	20-50	5-50	40-80	40-80	20-60
Minimum Tensile Strength at 7 days (psi)	1,500	2,000	4,000	4,000	1,500	1,500	4,000
Tensile Elongation at 7 days (%)	30 min.	30 min.	2-5	2-5	5-15	5-15	2-5
Min. Compressive Strength of 2" mortar cubes at 24 hours	3,000 (Neat)	4,000-	6,000-	6,000 (Neat)	3,000	3,000	6,000
Min. Compressive Strength of 2" mortar cubes at 7 days	5,000 (Neat)	-	-	-	-	5,000	-
Maximum Water Absorption (%)	1.5	1.0	1.0	1.5	1.0	1.0	1.0
Min. Bond Strength Slant Shear Test at 14 days (psi)	1,500	1,500	2,000	2,000	1,500	1,500	1,500

Page 10-164, Subarticle 1081-1(E) Prequalification, lines 31-33, replace the second sentence of the first paragraph with the following:

Manufacturers choosing to supply material for Department jobs must submit an application through the Value Management Unit with the following information for each type and brand name:

Page 10-164, Subarticle 1081-1(E)(3), line 37, replace this subarticle with the following:

(3) Type of the material in accordance with Articles 1081-1 and 1081-4,

Page 10-165, Subarticle 1081-1(E)(6), line 1, in the first sentence of the first paragraph replace “AASHTO M 237” with “the specifications”.

Page 10-165, Subarticle 1081-1(E) Prequalification, line 9-10, delete the second sentence of the last paragraph.

Page 10-165, Subarticle 1081-1(F) Acceptance, line 14, in the first sentence of the first paragraph replace “Type 1” with “Type 3”.

Page 10-169, Subarticle 1081-3(G) Anchor Bolt Adhesives, delete this subarticle.

Page 10-170, Article 1081-3 Hot Bitumen, line 9, add the following at the end of Section 1081:

1081-4 EPOXY RESIN ADHESIVE FOR BONDING TRAFFIC MARKINGS

(A) General

This section covers epoxy resin adhesive for bonding traffic markers to pavement surfaces.

(B) Classification

The types of epoxies and their uses are as shown below:

Type I – Rapid Setting, High Viscosity, Epoxy Adhesive. This type of adhesive provides rapid adherence to traffic markers to the surface of pavement.

Type II – Standard Setting, High Viscosity, Epoxy Adhesive. This type of adhesive is recommended for adherence of traffic markers to pavement surfaces when rapid set is not required.

Type III – Rapid Setting, Low Viscosity, Water Resistant, Epoxy Adhesive. This type of rapid setting adhesive, due to its low viscosity, is appropriate only for use with embedded traffic markers.

Type IV – Standard Set Epoxy for Blade Deflecting-Type Plowable Markers.

(C) Requirements

Epoxies shall conform to the requirements set forth in AASHTO M 237.

(D) Prequalification

Refer to Subarticle 1081-1(E).

(E) Acceptance

Refer to Subarticle 1081-1(F).

Page 10-173, Article 1084-2 STEEL SHEET PILES, lines 37-38, replace first paragraph with the following:

Steel sheet piles detailed for permanent applications shall be hot rolled and meet ASTM A572 or ASTM A690 unless otherwise required by the plans. Steel sheet piles shall be coated as required by the plans. Galvanized sheet piles shall be coated in accordance with Section 1076. Metallized sheet piles shall be metallized in accordance to the Project Special Provision “Thermal Sprayed Coatings (Metallization)” with an 8 mil, 99.9% aluminum alloy coating and a 0.5 mil seal coating. Any portion of the metallized sheet piling encased in concrete shall receive a barrier coat. The barrier coat shall be an approved waterborne coating with a low-viscosity which readily absorbs into the pores of the aluminum thermal sprayed coating. The waterborne coating shall be applied at a spreading rate that results in a theoretical 1.5 mil dry film thickness. The manufacturer shall issue a letter of certification that the resin chemistry of the waterborne coating is compatible with the 99.9% aluminum thermal sprayed alloy and suitable for tidal water applications.

Page 10-174, Subarticle 1086-1(B)(1) Epoxy, lines 18-24, replace this subarticle with the following:

The epoxy shall meet Article 1081-4.

The 2 types of epoxy adhesive which may be used are Type I, Rapid Setting, and Type II, Standard Setting. Use Type II when the pavement temperature is above 60°F or per the manufacturer's recommendations whichever is more stringent. Use Type I when the pavement temperature is between 50°F and 60°F or per the manufacturer's recommendations whichever is more stringent. Epoxy adhesive Type I, Cold Set, may be used to attach temporary pavement markers to the pavement surface when the pavement temperature is between 32°F and 50°F or per the manufacturer's recommendations whichever is more stringent.

Page 10-175, Subarticle 1086-2(E) Epoxy Adhesives, line 27, replace "Section 1081" with "Article 1081-4".

Page 10-177, Subarticle 1086-3(E) Epoxy Adhesives, line 22, replace "Section 1081" with "Article 1081-4".

Page 10-179, Subarticle 1087-4(A) Composition, lines 39-41, replace the third paragraph with the following:

All intermixed and drop-on glass beads shall not contain more than 75 ppm arsenic or 200 ppm lead.

Page 10-180, Subarticle 1087-4(B) Physical Characteristics, line 8, replace the second paragraph with the following:

All intermixed and drop-on glass beads shall comply with NCGS § 136-30.2 and 23 USC § 109(r).

Page 10-181, Subarticle 1087-7(A) Intermixed and Drop-on Glass Beads, line 24, add the following after the first paragraph:

Use X-ray Fluorescence for the normal sampling procedure for intermixed and drop-on beads, without crushing, to check for any levels of arsenic and lead. If any arsenic or lead is detected, the sample shall be crushed and repeat the test using X-ray Fluorescence. If the X-ray Fluorescence test shows more than a LOD of 5 ppm, test the beads using United States Environmental Protection Agency Method 6010B, 6010C or 3052 for no more than 75 ppm arsenic or 200 ppm lead.

Page 10-204, Subarticle 1092-2(A) Performance and Test Requirements, replace **Table 1092-3 Minimum Coefficient of Retroreflection for NC Grade A** with the following:

TABLE 1092-3 MINIMUM COEFFICIENT OF RETROREFLECTION FOR NC GRADE A (Candelas Per Lux Per Square Meter)								
Observation Angle, degrees	Entrance Angle, degrees	White	Yellow	Green	Red	Blue	Fluorescent Yellow Green	Fluorescent Yellow
0.2	-4.0	525	395	52	95	30	420	315
0.2	30.0	215	162	22	43	10	170	130
0.5	-4.0	310	230	31	56	18	245	185
0.5	30.0	135	100	14	27	6	110	81
1.0	-4.0	120	60	8	16	3.6	64	48
1.0	30.0	45	34	4.5	9	2	36	27

GROUT PRODUCTION AND DELIVERY:

(3-17-15)

1003

SP10 R20

Revise the 2012 *Standard Specifications* as follows:

Replace Section 1003 with the following:

**SECTION 1003
GROUT PRODUCTION AND DELIVERY**

1003-1 DESCRIPTION

This section addresses cement grout to be used for structures, foundations, retaining walls, concrete barriers, embankments, pavements and other applications in accordance with the contract. Produce non-metallic grout composed of Portland cement and water and at the Contractor's option or as required, aggregate and pozzolans. Include chemical admixtures as required or needed. Provide sand cement or neat cement grout as required. Define "sand cement grout" as grout with only fine aggregate and "neat cement grout" as grout without aggregate.

The types of grout with their typical uses are as shown below:

Type 1 – A cement grout with only a 3-day strength requirement and a fluid consistency that is typically used for filling subsurface voids.

Type 2 – A nonshrink grout with strength, height change and flow conforming to ASTM C1107 that is typically used for foundations, ground anchors and soil nails.

Type 3 – A nonshrink grout with high early strength and freeze-thaw durability requirements that is typically used in pile blockouts, grout pockets, shear keys, dowel holes and recesses for concrete barriers and structures.

Type 4 – A neat cement grout with low strength, a fluid consistency and high fly ash content that is typically used for slab jacking.

Type 5 – A low slump, low mobility sand cement grout with minimal strength that is typically used for compaction grouting.

1003-2 MATERIALS

Refer to Division 10.

Item	Section
Chemical Admixtures	1024-3
Fine Aggregate	1014-1
Fly Ash	1024-5
Ground Granulated Blast Furnace Slag	1024-6
Portland Cement	1024-1
Silica Fume	1024-7
Water	1024-4

Do not use grout that contains soluble chlorides or more than 1% soluble sulfate. At the Contractor's option, use an approved packaged grout instead of the materials above except for water. Use packaged grouts that are on the NCDOT Approved Products List.

Use admixtures for grout that are on the NCDOT Approved Products List or other admixtures in accordance with Subarticle 1024-3(E) except do not use concrete additives or unclassified or other admixtures in Type 4 or 5 grout. Use Class F fly ash for Type 4 grout and Type II Portland cement for Type 5 grout.

Use well graded rounded aggregate with a gradation, liquid limit (LL) and plasticity index (PI) that meet Table 1003-1 for Type 5 grout. Fly ash may be substituted for a portion of the fines in the aggregate. Do not use any other pozzolans in Type 5 grout.

TABLE 1003-1 AGGREGATE REQUIREMENTS FOR TYPE 5 GROUT			
Gradation		Maximum Liquid Limit	Maximum Plasticity Index
Sieve Designation per AASHTO M 92	Percentage Passing (% by weight)		
3/8"	100	N/A	N/A
No. 4	70 – 95		
No. 8	50 – 90		
No. 16	30 – 80		
No. 30	25 – 70		
No. 50	20 – 50		
No. 100	15 – 40		
No. 200	10 – 30	25	10

1003-3 COMPOSITION AND DESIGN

When using an approved packaged grout, a grout mix design submittal is not required. Otherwise, submit proposed grout mix designs for each grout mix to be used in the work. Mixes for all grout shall be designed by a Certified Concrete Mix Design Technician or an Engineer licensed by the State of North Carolina. Mix proportions shall be determined by a testing laboratory approved by the Department. Base grout mix designs on laboratory trial batches that meet Table 1003-2 and this section. With permission, the Contractor may use a quantity of chemical admixture within the range shown on the current list of approved admixtures maintained by the Materials and Tests Unit.

Submit grout mix designs in terms of saturated surface dry weights on Materials and Tests Form 312U at least 35 days before proposed use. Adjust batch proportions to compensate for surface moisture contained in the aggregates at the time of batching. Changes in the saturated surface dry mix proportions will not be permitted unless revised grout mix designs have been submitted to the Engineer and approved.

Accompany Materials and Tests Form 312U with a listing of laboratory test results of compressive strength, density and flow or slump and if applicable, aggregate gradation, durability and height change. List the compressive strength of at least three 2" cubes at the age of 3 and 28 days.

The Engineer will review the grout mix design for compliance with the contract and notify the Contractor as to its acceptability. Do not use a grout mix until written notice has been received. Acceptance of the grout mix design or use of approved packaged grouts does not relieve the Contractor of his responsibility to furnish a product that meets the contract. Upon written request from the Contractor, a grout mix design accepted and used satisfactorily on any Department project may be accepted for use on other projects.

Perform laboratory tests in accordance with the following test procedures:

Property	Test Method
Aggregate Gradation ^A	AASHTO T 27
Compressive Strength	AASHTO T 106
Density (Unit Weight)	AASHTO T 121, AASHTO T 133 ^B , ANSI/API RP ^C 13B-1 ^B (Section 4, Mud Balance)
Durability	AASHTO T 161 ^D
Flow	ASTM C939 (Flow Cone)
Height Change	ASTM C1090 ^E
Slump	AASHTO T 119

A. Applicable to grout with aggregate.

B. Applicable to Neat Cement Grout.

C. American National Standards Institute/American Petroleum Institute Recommended Practice.

D. Procedure A (Rapid Freezing and Thawing in Water) required.

E. Moist room storage required.

1003-4 GROUT REQUIREMENTS

Provide grout types in accordance with the contract. Use grouts with properties that meet Table 1003-2. The compressive strength of the grout will be considered the average compressive strength test results of three 2" cubes at each age. Make cubes that meet AASHTO T 106 from the grout delivered for the work or mixed on-site. Make cubes at such frequencies as the Engineer may determine and cure them in accordance with AASHTO T 106.

**TABLE 1003-2
GROUT REQUIREMENTS**

Type of Grout	Minimum Compressive Strength at		Height Change at 28 days	Flow ^A /Slump ^B	Minimum Durability Factor
	3 days	28 days			
1	3,000 psi	–	–	10 – 30 sec	–
2	Table 1 ^C			Fluid Consistency ^C	–
3	5,000 psi	–	0 – 0.2%	Per Accepted Grout Mix Design/ Approved Packaged Grout	80
4 ^D	600 psi	1,500 psi	–	10 – 26 sec	–
5	–	500 psi	–	1 – 3"	–

A. Applicable to Type 1 through 4 grouts.

B. Applicable to Type 5 grout.

C. ASTM C1107.

D. Use Type 4 grout with proportions by volume of 1 part cement and 3 parts fly ash.

1003-5 TEMPERATURE REQUIREMENTS

When using an approved packaged grout, follow the manufacturer's instructions for grout and air temperature at the time of placement. Otherwise, the grout temperature at the time of placement shall be not less than 50°F nor more than 90°F. Do not place grout when the air temperature measured at the location of the grouting operation in the shade away from artificial heat is below 40°F.

1003-6 ELAPSED TIME FOR PLACING GROUT

Agitate grout continuously before placement. Regulate the delivery so the maximum interval between the placing of batches at the work site does not exceed 20 minutes. Place grout before exceeding the times in Table 1003-3. Measure the elapsed time as the time between adding the mixing water to the grout mix and placing the grout.

**TABLE 1003-3
ELAPSED TIME FOR PLACING GROUT
(with continuous agitation)**

Air or Grout Temperature, Whichever is Higher	Maximum Elapsed Time	
	No Retarding Admixture Used	Retarding Admixture Used
90°F or above	30 minutes	1 hr. 15 minutes
80°F through 89°F	45 minutes	1 hr. 30 minutes
79°F or below	60 minutes	1 hr. 45 minutes

1003-7 MIXING AND DELIVERY

Use grout free of any lumps and undispersed cement. When using an approved packaged grout, mix grout in accordance with the manufacturer's instructions. Otherwise, comply with Articles 1000-8 through 1000-12 to the extent applicable for grout instead of concrete.

TRAFFIC CONTROL AND WORK ZONE SIGNING

The North Carolina Department of Transportation will install and maintain all Traffic Control and Work Zone Signing for this project.

STANDARD SPECIAL PROVISION**AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS**

(5-20-08)

Z-2

General Statute 143C-6-11. (h) Highway Appropriation is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c)*. Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(E) of the *2012 Standard Specifications*.

STANDARD SPECIAL PROVISION**ERRATA**

(1-17-12) (Rev. 11-18-14)

Z-4

Revise the *2012 Standard Specifications* as follows:

Division 2

Page 2-7, line 31, Article 215-2 Construction Methods, replace “Article 107-26” with “Article 107-25”.

Page 2-17, Article 226-3, Measurement and Payment, line 2, delete “pipe culverts,”.

Page 2-20, Subarticle 230-4(B), Contractor Furnished Sources, change references as follows: Line 1, replace “(4) Buffer Zone” with “(c) Buffer Zone”; **Line 12**, replace “(5) Evaluation for Potential Wetlands and Endangered Species” with “(d) Evaluation for Potential Wetlands and Endangered Species”; and **Line 33**, replace “(6) Approval” with “(4) Approval”.

Division 3

Page 3-1, after line 15, Article 300-2 Materials, replace “1032-9(F)” with “1032-6(F)”.

Division 4

Page 4-77, line 27, Subarticle 452-3(C) Concrete Coping, replace “sheet pile” with “reinforcement”.

Division 6

Page 6-7, line 31, Article 609-3 Field Verification of Mixture and Job Mix Formula Adjustments, replace “30” with “45”.

Page 6-10, line 42, Subarticle 609-6(C)(2), replace “Subarticle 609-6(E)” with “Subarticle 609-6(D)”.

Page 6-11, Table 609-1 Control Limits, replace “Max. Spec. Limit” for the Target Source of $P_{0.075}/P_{be}$ Ratio with “1.0”.

Page 6-40, Article 650-2 Materials, replace “Subarticle 1012-1(F)” with “Subarticle 1012-1(E)”

Division 8

Page 8-23, line 10, Article 838-2 Materials, replace “Portland Cement Concrete, Class B” with “Portland Cement Concrete, Class A”.

Division 10

Page 10-166, Article 1081-3 Hot Bitumen, replace “Table 1081-16” with “Table 1081-2”, replace “Table 1081-17” with “Table 1081-3”, and replace “Table 1081-18” with “Table 1081-4”.

Division 12

Page 12-7, Table 1205-3, add “FOR THERMOPLASTIC” to the end of the title.

Page 12-8, Subarticle 1205-5(B), line 13, replace “Table 1205-2” with “Table 1205-4”.

Page 12-8, Table 1205-4 and 1205-5, replace “THERMOPLASTIC” in the title of these tables with “POLYUREA”.

Page 12-9, Subarticle 1205-6(B), line 21, replace “Table 1205-4” with “Table 1205-6”.

Page 12-11, Subarticle 1205-8(C), line 25, replace “Table 1205-5” with “Table 1205-7”.

Division 15

Page 15-4, Subarticle 1505-3(F) Backfilling, line 26, replace “Subarticle 235-4(C)” with “Subarticle 235-3(C)”.

Page 15-6, Subarticle 1510-3(B), after line 21, replace the allowable leakage formula with the following: $W = LD\sqrt{P} \div 148,000$

Page 15-6, Subarticle 1510-3(B), line 32, delete “may be performed concurrently or” and replace with “shall be performed”.

Page 15-17, Subarticle 1540-3(E), line 27, delete “Type 1”.

Division 17

Page 17-26, line 42, Subarticle 1731-3(D) Termination and Splicing within Interconnect Center, delete this subarticle.

Revise the *2012 Roadway Standard Drawings* as follows:

1633.01 Sheet 1 of 1, English Standard Drawing for Matting Installation, replace “1633.01” with “1631.01”.

STANDARD SPECIAL PROVISION**PLANT AND PEST QUARANTINES****(Imported Fire Ant, Gypsy Moth, Witchweed, And Other Noxious Weeds)**

(3-18-03) (Rev. 10-15-13)

Z-04a

Within Quarantined Area

This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

Originating in a Quarantined County

Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-733-6932, or <http://www.ncagr.gov/plantind/> to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed or other noxious weeds.

STANDARD SPECIAL PROVISION**MINIMUM WAGES**

(7-21-09)

Z-5

FEDERAL: The Fair Labor Standards Act provides that with certain exceptions every employer shall pay wages at the rate of not less than SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

STATE: The North Carolina Minimum Wage Act provides that every employer shall pay to each of his employees, wages at a rate of not less than SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all skilled labor employed on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all intermediate labor employed on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all unskilled labor on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

This determination of the intent of the application of this act to the contract on this project is the responsibility of the Contractor.

The Contractor shall have no claim against the Department of Transportation for any changes in the minimum wage laws, Federal or State. It is the responsibility of the Contractor to keep fully informed of all Federal and State Laws affecting his contract.

STANDARD SPECIAL PROVISION**ON-THE-JOB TRAINING**

(10-16-07) (Rev. 5-21-13)

Z-10

Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this provision and the On-the-Job Training Program Manual.

The Alternate OJT Program will allow a contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year. A sample agreement is available at www.ncbowd.com/section/on-the-job-training.

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

Equipment Operators	Office Engineers
Truck Drivers	Estimators
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

The Department has established common training classifications and their respective training requirements that may be used by the contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

All trainees enrolled in the program will receive an initial and Trainee/Post graduate interview conducted by the OJT program staff.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract documents.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BID FORM

LINE	ITEM NUMBER	SECT	DESCRIPTION	QUAN	UNIT	UNIT BID	AMOUNT BID
1	0000100000-N	800	Mobilization	8	EACH	\$3,500.00	\$28,000.00
2	0000915000-N	SP	Plan Submittal	8	EACH	\$2,500.00	\$20,000.00
3	8834000000-N	SP	F & I Launched Soil Nails up to 20'	10	EACH	\$475.00	\$4,750.00
4	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 20'	50	EACH	\$600.00	\$30,000.00
5	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 30'	40	EACH	\$800.00	\$32,000.00
6	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 40'	30	EACH	\$900.00	\$27,000.00
7	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 50'	10	EACH	\$1,000.00	\$10,000.00
8	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 60'	5	EACH	\$1,200.00	\$6,000.00
9	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 70'	5	EACH	\$1,400.00	\$7,000.00
10	8834000000-N	SP	F & I Permanently Cased Soil Nails up to 80'	2	EACH	\$1,600.00	\$3,200.00
11	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 20'	50	EACH	\$650.00	\$32,500.00
12	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 30'	40	EACH	\$1,000.00	\$40,000.00
13	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 40'	30	EACH	\$1,400.00	\$42,000.00
14	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 50'	10	EACH	\$1,500.00	\$15,000.00
15	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 60'	10	EACH	\$1,700.00	\$17,000.00
16	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 70'	5	EACH	\$2,000.00	\$10,000.00
17	8834000000-N	SP	F & I Self-Drilling Soil Nails up to 80'	2	EACH	\$2,200.00	\$4,400.00
18	8834000000-N	SP	F & I Self-Drilling Micropiles up to 20'	25	EACH	\$750.00	\$18,750.00
19	8834000000-N	SP	F & I Self-Drilling Micropiles up to 30'	25	EACH	\$1,100.00	\$27,500.00
20	8834000000-N	SP	F & I Self-Drilling Micropiles up to 40'	10	EACH	\$1,500.00	\$15,000.00
21	8834000000-N	SP	F & I Self-Drilling Micropiles up to 50'	10	EACH	\$1,600.00	\$16,000.00
22	8834000000-N	SP	F & I Self-Drilling Micropiles up to 60'	5	EACH	\$1,800.00	\$9,000.00

LINE	ITEM NUMBER	SECT	DESCRIPTION	QUAN	UNIT	UNIT BID	AMOUNT BID
23	8834000000-N	SP	F & I Self-Drilling Micropiles up to 70'	2	EACH	\$2,100.00	\$4,200.00
24	8834000000-N	SP	F & I Self-Drilling Micropiles up to 80'	2	EACH	\$2,300.00	\$4,600.00
25	8834000000-N	SP	F & I Horiz. Drains up to 20'	25	EACH	\$500.00	\$12,500.00
26	8834000000-N	SP	F & I Horiz. Drains up to 30'	20	EACH	\$750.00	\$15,000.00
27	8834000000-N	SP	F & I Horiz. Drains up to 40'	10	EACH	\$1,000.00	\$10,000.00
28	8834000000-N	SP	F & I Horiz. Drains up to 50'	5	EACH	\$1,250.00	\$6,250.00
29	8834000000-N	SP	F & I Horiz. Drains up to 60'	5	EACH	\$1,500.00	\$7,500.00
30	8834000000-N	SP	F & I Horiz. Drains up to 70'	2	EACH	\$1,750.00	\$3,500.00
31	8834000000-N	SP	F & I Horiz. Drains up to 80'	2	EACH	\$2,000.00	\$4,000.00
32	8834000000-N	SP	Furnish Concrete Masonry Units	8,000	EACH	\$3.60	\$28,800.00
33	8839000000-E	SP	F & I, Shotcrete Shoulder Build- Up	500	LFT	\$150.00	\$75,000.00
34	8847000000-E	SP	F & I Wire Mesh Surface Treatment	1,500	SFT	\$15.00	\$22,500.00
35	8847000000-E	SP	F & I, 6" Reinforced Shotcrete	5,000	SFT	\$30.00	\$150,000.00
36	8847000000-E	SP	F & I, 8" Reinforced Shotcrete	5,000	SFT	\$32.00	\$160,000.00
37	8847000000-E	SP	F & I, 12" Reinforced Shotcrete	2,500	SFT	\$37.00	\$92,500.00
38	8847000000-N	SP	Furnish Geosynthetic Fabric	9,000	SFT	\$0.50	\$4,500.00
39	8834000000-N	SP	Install Geosynthetically Confined Soil Wall	10,000	SFT	\$30.00	\$300,000.00

TOTAL BID FOR PROJECT: \$1,315,950.00

*None Used

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address	MBE WBE		NONE USED	Ø	Ø
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				

* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

** Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:

If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.

If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				

* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

**** Dollar Volume of MBE Subcontractor** \$ _____

MBE Percentage of Total Contract Bid Price _____%

**** Dollar Volume of WBE Subcontractor** \$ _____

**** Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:**

WBE Percentage of Total Contract Bid Price _____%

If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.

If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.

ADDENDUM(S)

ADDENDUM #1

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #1.

ADDENDUM #2

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #2.

ADDENDUM #3

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #3.

AWARD LIMITS ON MULTIPLE PROJECTS

It is the desire of the Proposer to be awarded contracts, the value of which will not exceed a total of \$ _____, for those projects indicated below on which bids are being opened on the same date as shown in the Proposal Form. Individual projects shall be indicated by placing the project number and county in the appropriate place below. Projects not selected will not be subject to an award limit.

_____ (Project Number)	_____ (County)
_____ (Project Number)	_____ (County)
_____ (Project Number)	_____ (County)
_____ (Project Number)	_____ (County)

*If a Proposer desires to limit the total amount of work awarded to him in this letting, he shall state such limit in the space provided above in the second line of this form.

It is agreed that in the event that I am (we are) the successful bidder on indicated projects, the total value of which is more that the above stipulated award limits, the Board of Transportation will award me (us) projects from among those indicated which have a total value not exceeding the award limit and which will result in the best advantage to the Department of Transportation.

**Signature of Authorized Person

**Only those persons authorized to sign bids under the provisions of Article 102-8, Item 7, shall be authorized to sign this form.

**EXECUTION OF BID
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN
CERTIFICATION**

LIMITED LIABILITY COMPANY

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

GeoStabilization International, LLC

Full Name of Firm

543 31 Rd, Grand Junction, CO 81504

Address as Prequalified

[Signature]

Signature of Witness

[Signature]

Signature of Member/Manager/Authorized Agent
Select appropriate title

Michelle Orlicier

Print or type Signer's name

Kim Ruckman

Print or type Signer's Name

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the

NOTARY SEAL

6th day of March 2015.

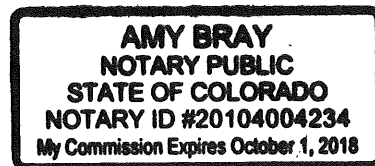
[Signature]

Signature of Notary Public

of Mesa County

State of Colorado

My Commission Expires: 10/01/18



DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction*, *debarred*, *suspended*, *ineligible*, *lower tier covered transaction*, *participant*, *person*, *primary covered transaction*, *principal*, *proposal*, and *voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion affidavit and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐

Check here if an explanation is attached to this certification.

Execution of Contract

Contract No: DN11470610

County: Henderson, Polk and Transylvania Counties

ACCEPTED BY THE DEPARTMENT

DocuSigned by:

Wanda H. Austin

B88118F1E31C453...

Project Manager **Proposals Engineer**

4/2/2015

Date

EXECUTION OF CONTRACT AND BONDS
APPROVED AS TO FORM:

DocuSigned by:

ELQJ

A2A7E175592C486...

Division Engineer

4/3/2015

Date

Signature Sheet (Bid) - ACCEPTANCE SHEET



CERTIFICATE OF LIABILITY INSURANCE

5/1/2015

DATE (MM/DD/YYYY)

3/20/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies 8110 E. Union Avenue Suite 700 Denver CO 80237 (303) 414-6000	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A: Zurich American Insurance Company	
	INSURER B: National Union Fire Ins Co Pittsburgh PA	
INSURED 1393318 Geostabilization International, LLC Attn: Kim Ruckman-Wright P.O. Box 4709 543 31 Road Grand Junction, CO 81504	NAIC #	
	16535	
	INSURER C: Allianz Global Risks US Insurance Co	
	19445	
	INSURER D: ACE American Insurance Company	
	35300	
INSURER E:		
22667		
INSURER F:		

COVERAGES**CERTIFICATE NUMBER:** 13408087**REVISION NUMBER:** XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	N	N	GLA-9263912-04	5/1/2014	5/1/2015	EACH OCCURRENCE \$ \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ \$300,000 MED EXP (Any one person) \$ \$10,000 PERSONAL & ADV INJURY \$ \$1,000,000 GENERAL AGGREGATE \$ \$2,000,000 PRODUCTS - COMP/OP AGG \$ \$2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS	N	N	GLA-9263912-04	5/1/2014	5/1/2015	COMBINED SINGLE LIMIT (Ea accident) \$ \$1,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX Comp/Coll Ded. \$ \$1,000
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000	N	N	BE 31131549	5/1/2014	5/1/2015	EACH OCCURRENCE \$ \$15,000,000 AGGREGATE \$ \$15,000,000 Prods/Comp Ops \$ \$15,000,000
A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WC-9242823-03	5/1/2014	5/1/2015	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$ \$1,000,000 E.L. DISEASE - POLICY LIMIT \$ \$1,000,000
C D	Leased/Rented Equip Install Float Prof/Poll	N	N	MZI98474801 G25659545 002	5/1/2014 5/1/2014	5/1/2015 5/1/2015	Limit: \$5M Limit: \$200K Limits/Occur \$2M; Agg: \$6M

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Contract ID DN11470610.

CERTIFICATE HOLDER**13408087**Department of Transportation
State of North Carolina
253 Webster Road
Sylva NC 28779**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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Contract No. DN11470610
County Henderson, Polk and Transylvania

Rev 5-17-11

Bond No. DVIFSU0677689

CONTRACT PERFORMANCE BOND

Date of Performance Bond Execution: March 23, 2015

Name of Principal Contractor: GeoStabilization International, LLC

Name of Surety: International Fidelity Insurance Company

Name of Contracting Body: North Carolina Department of Transportation
Raleigh, North Carolina

Amount of Bond: One Million Three Hundred Fifteen Thousand Nine Hundred Fifty and 00/100 (\$1,315,950.00)

Contract ID No.: DN11470610

County Name: Henderson, Polk and Transylvania

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No. DN11470610
County Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PERFORMANCE BOND

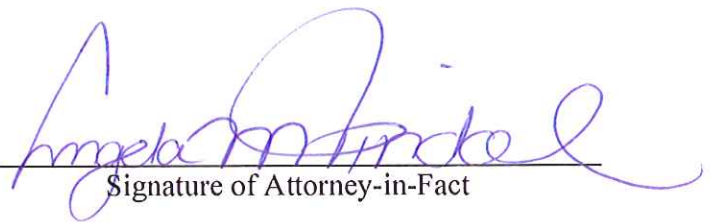
Affix Seal of Surety Company


International Fidelity Insurance Company

Print or type Surety Company Name

By Angela M. Tindol

Print, stamp or type name of Attorney-in-Fact


Signature of Attorney-in-Fact


Signature of Witness

Mona D. Weaver

Print or type Signer's name

8110 E. Union Ave., Ste. 700
Denver, CO 80237

Address of Attorney-in-Fact

Contract No.
County

DN11470610
Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PERFORMANCE BOND
LIMITED LIABILITY COMPANY

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor

GeoStabilization International, LLC

Full name of Firm

543 31 Road, Grand Junction, CO 81504

Address as prequalified

By:



Signature of Member, Manager, Authorized Agent

Select appropriate title

Kim Rockman, CAO

Print or type Signer's name

Contract No.
County

DN11470610
Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PERFORMANCE BOND

Attach certified copy of Power of Attorney to this sheet

POWER OF ATTORNEY

INTERNATIONAL FIDELITY INSURANCE COMPANY ALLEGHENY CASUALTY COMPANY

ONE NEWARK CENTER, 20TH FLOOR NEWARK, NEW JERSEY 07102-5207

KNOW ALL MEN BY THESE PRESENTS: That INTERNATIONAL FIDELITY INSURANCE COMPANY, a corporation organized and existing under the laws of the State of New Jersey, and ALLEGHENY CASUALTY COMPANY a corporation organized and existing under the laws of the State of Pennsylvania, having their principal office in the City of Newark, New Jersey, do hereby constitute and appoint

JOHN BROWNING, MARY ASHLEY ALLEN, CHARLES M. MCDANIEL, ANGELA M. TINDOL,
MONA D. WEAVER, SHEILA J. MONTOYA, ANUJ JAIN, ANGELA HAUCK

Denver, CO.

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY and is granted under and by authority of the following resolution adopted by the Board of Directors of INTERNATIONAL FIDELITY INSURANCE COMPANY at a meeting duly held on the 20th day of July, 2010 and by the Board of Directors of ALLEGHENY CASUALTY COMPANY at a meeting duly held on the 15th day of August, 2000:

"RESOLVED, that (1) the President, Vice President, Executive Vice President or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY have each executed and attested these presents on this 22nd day of July, 2014.



STATE OF NEW JERSEY
County of Essex

ROBERT W. MINSTER
Executive Vice President/Chief Operating Officer
(International Fidelity Insurance Company)
and President (Allegheny Casualty Company)



On this 22nd day of July 2014, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.



A NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 16, 2019

CERTIFICATION

I, the undersigned officer of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 23rd day of March, 2015.

MARIA BRANCO, Assistant Secretary

Contract No. DN11470610
County Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PAYMENT BOND

Date of Payment Bond Execution March 23, 2015

Name of Principal Contractor GeoStabilization International, LLC

Name of Surety: International Fidelity Insurance Company

Name of Contracting Body: North Carolina Department of Transportation
Raleigh, North Carolina

Amount of Bond: One Million Three Hundred Fifteen Thousand Nine Hundred Fifty and 00/100 (\$1,315,950.00)

Contract ID No.: DN11470610

County Name: Henderson, Polk and Transylvania

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No.
County

DN11470610
Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PAYMENT BOND

Affix Seal of Surety Company

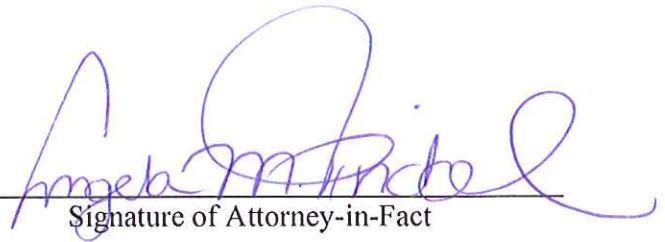
International Fidelity Insurance Company

Print or type Surety Company Name

By

Angela M. Tindol

Print, stamp or type name of Attorney-in-Fact


Signature of Attorney-in-Fact



Signature of Witness

Mona D. Weaver

Print or type Signer's name

8110 E. Union Ave., Ste. 700
Denver, CO 80237

Address of Attorney-in-Fact

Contract No.
County

DN11470610
Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PAYMENT BOND

LIMITED LIABILITY COMPANY

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor

GeoStabilization International, LLC

Full name of Firm

543 31 Road, Grand Junction, CO 81504

Address as prequalified

By:



Signature of Member, Manager, Authorized Agent

Select appropriate title

Kim Buckman, CAO

Print or type Signer's name

Contract No.
County

DN11470610
Henderson, Polk and Transylvania

Rev 5-17-11

CONTRACT PAYMENT BOND

Attach certified copy of Power of Attorney to this sheet

POWER OF ATTORNEY

INTERNATIONAL FIDELITY INSURANCE COMPANY ALLEGHENY CASUALTY COMPANY

ONE NEWARK CENTER, 20TH FLOOR NEWARK, NEW JERSEY 07102-5207

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Denver, CO.

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY and is granted under and by authority of the following resolution adopted by the Board of Directors of INTERNATIONAL FIDELITY INSURANCE COMPANY at a meeting duly held on the 20th day of July, 2010 and by the Board of Directors of ALLEGHENY CASUALTY COMPANY at a meeting duly held on the 15th day of August, 2000:

"RESOLVED, that (1) the President, Vice President, Executive Vice President or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY have each executed and attested these presents on this 22nd day of July, 2014.



STATE OF NEW JERSEY
County of Essex

ROBERT W. MINSTER
Executive Vice President/Chief Operating Officer
(International Fidelity Insurance Company)
and President (Allegheny Casualty Company)



On this 22nd day of July 2014, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.



A NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 16, 2019

CERTIFICATION

I, the undersigned officer of INTERNATIONAL FIDELITY INSURANCE COMPANY and ALLEGHENY CASUALTY COMPANY do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 23rd day of March, 2015

MARIA BRANCO, Assistant Secretary